IN THE SUPREME COURT

OF THE

STATE OF SOUTH DAKOTA

Appeal No. #30899	Appeal	No.	#30	899	9
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ANDREW MORSE and JOHN and EMILY CLARKE, for themselves and on behalf of all similarly situated individuals,

Appellants,

V.

STATE OF SOUTH DAKOTA and/or the SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successor to the SOUTH DAKOTA CEMENT PLANT COMMISSION and the SOUTH DAKOTA CEMENT PLANT

Appellees.

Appeal from the Circuit Court, Fourth Judicial Circuit Meade County, South Dakota The Honorable Eric Strawn, Presiding

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INTRODUCTION

Plaintiffs' properties are sinking into the earth, and their houses are coming apart at the seams. The State is responsible for this destruction. It owns the subsurface beneath Plaintiffs' properties, a subsurface it filled with crumbling minerals and loose garbage. These materials are insufficient to support the surface, and it was only a matter of time before the ground began to collapse under its own weight. Expressly relying on a dissenting opinion of this Court, the Circuit Court held that the State could escape liability because of sovereign immunity. But this Court has repeatedly rejected that conclusion. This Court should reverse and hold that the State can be liable under the South Dakota Constitution's Taking and Damages Clause.

PRELIMINARY STATEMENT

Citations to the record are designated as "R." followed by the appropriate volume and page number(s). Citations to the appendix are designated as "App." followed by the appropriate page number. Individual plaintiffs are referred to by their first and last names. Defendant State of South Dakota is referred to as the "State." Defendants South Dakota Cement Plant Commission and the South Dakota Cement Plant are together referred to as the "Cement Plant."

JURISDICTIONAL STATEMENT

This is an appeal from the Circuit Court's Judgment of Dismissal denying Plaintiffs' Motion for Partial Summary Judgment and granting Defendant's Motion for Summary Judgment, which was entered on October 15, 2024. R. vol. 6, p. 1179. Defendants filed a Notice of Entry of Judgment of Dismissal on October 17, 2024. R. vol. 6, pp. 1180-81. Plaintiffs timely filed their Notice of Appeal and Docketing Statement on November 7, 2024. R. vol. 6, pp. 1309-18. This Court has jurisdiction pursuant to SDCL § 15-26A-3(1), because it is an appeal from a final judgment.

Plaintiffs seek review of the Circuit Court's Order Denying Plaintiffs' Motion for Partial Summary Judgment and its Order Granting Defendants' Motion for Summary Judgment and Denying Plaintiffs' Motion for Summary Judgment. These orders are reviewable pursuant to SDCL § 15-26A-7.

LEGAL ISSUES

I. Whether the Circuit Court erred in granting summary judgment for Defendants on sovereign immunity.

The Circuit Court concluded that Plaintiffs' claims are barred by sovereign immunity because they sound in tort. The following are the most pertinent legal authorities on this issue:

- S.D. Const. art. VI, § 13.
- Long v. State, 2017 S.D. 79.
- Rupert v. City of Rapid City, 2013 S.D. 13.
- II. Whether the deprivation of subsurface and lateral support is a taking/damaging under the South Dakota Constitution.

The Circuit Court failed to rule on Plaintiffs' argument that the State's deprivation of subsurface and lateral support constituted a taking/damaging

under the South Dakota Constitution. The following are the most pertinent legal authorities on this issue:

- Long v. State, 2017 S.D. 79.
- Ulrick v. Dakota Loan & Tr. Co., 49 N.W. 1054 (S.D. 1891),
 overruled on other grounds by Long v. Collins, 82 N.W. 95 (S.D. 1900).
- Salmon v. Peterson, 311 N.W.2d 205 (S.D. 1981).
- Collins v. Gleason Coal Co., 115 N.W. 497 (Iowa 1908).
- Restatement (Second) of Torts § 820 cmt. b (Am. L. Inst. 1979).

STATEMENT OF THE CASE

This matter originates from a judgment rendered in Meade County in the Fourth Judicial Circuit by the Honorable Eric Strawn. Plaintiffs filed a class action petition on October 27, 2020. R. vol 1, pp. 6-24. Plaintiffs pled claims for inverse condemnation, breach of a real property covenant, breach of the duty of surface/subjacent support, unjust enrichment, and constructive trust. R. vol. 1, pp. 19-21. Plaintiffs later dismissed all but the inverse condemnation claim, and the Circuit Court granted Plaintiffs' motion to certify the class. R. vol. 1, pp. 154-55. As any citizen seeking just compensation must do, Plaintiffs framed their inverse condemnation claim

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¹ The Honorable Kevin J. Krull presided over the early stages of this litigation.

using traditional notions of property and tort law to establish that

Defendants invaded Plaintiffs' property rights and that those invasions

amounted to a taking or damaging within the meaning of § 13 of Article VI of
the South Dakota Constitution.

Following discovery, Plaintiffs moved for partial summary judgment and Defendants moved for summary judgment. R. vol. 4, pp. 3997-4000; vol. 5, pp. 53-54. After a hearing, the Circuit Court denied Plaintiffs' motion for partial summary judgment and granted Defendants' motion for summary judgment. R. vol. 6, p. 1178. Although Defendants raised multiple arguments in support of their motion, the Circuit Court ruled on only one issue: sovereign immunity. R. vol. 6, pp. 1168-77. The Circuit Court held that Plaintiffs' inverse condemnation claim was really a tort claim—and was therefore barred by sovereign immunity because Defendants' conduct would have been a tort if it were committed by a private party. R. vol. 6, pp. 1174-76.

Plaintiffs timely filed their notice of appeal and docketing statement.

R. vol. 6, pp. 1309-18. They now ask this Court to reverse the grant of summary judgment to Defendants, grant summary judgment to Plaintiffs on the issue of public use, and hold that the State can be held strictly liable.

STATEMENT OF FACTS

On April 27, 2020, the earth collapsed in the quiet neighborhood of Hideaway Hills. R. vol 4, p. 4330; vol. 5, pp. 21-22. A gigantic, gaping hole

opened up on East Daisy Drive, mere feet from the edge of John and Erika Trudo's home. See R. vol. 4, p 3958. Unbeknownst to any of Hideaway Hills's residents, their homes were precariously balanced over former mines that the State filled with collapsing and subsiding materials. See R. vol. 4, pp. 4325-26; vol. 5, pp. 23-24. It was only a matter of time before they plunged beneath the surface.

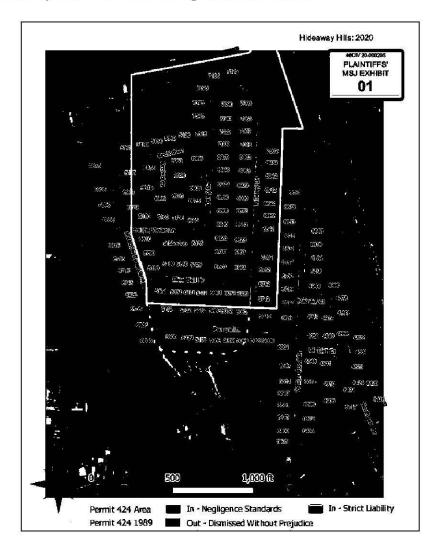


App. 282.

Those basic facts are all this Court needs to reverse the award of judgment to the State on sovereign immunity grounds, since that is a pure legal issue. For completeness, however, Plaintiffs offer additional details below.

I. The history of mining underneath Hideaway Hills.

Hideaway Hills is built on top of an old mine:

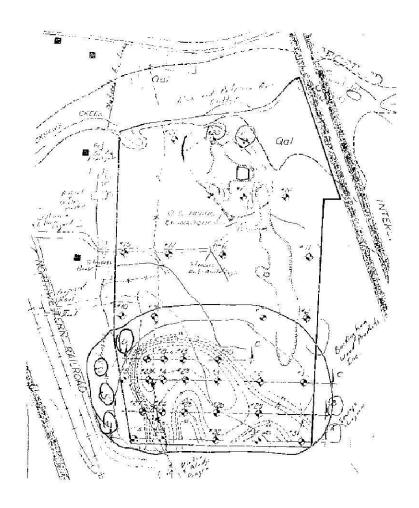


R. vol. 4, p. 3993.

This map shows that Hideaway Hills is a densely populated neighborhood located between Interstate 90 to the east and a railroad to the west. It also indicates the lot locations of the current plaintiffs. But the most useful part of that diagram is the yellow boundary that forms a misshapen rectangle. That boundary is key to understanding where the mines and

reclaimed areas are located that threaten Plaintiffs' property, and how those mines got there.

Hideaway Hills is built over land that was mined several times. The first underground mines were dug in the early 1900s by a company called Dakota Plaster. R. vol. 5, p. 105. At the time, Dakota Plaster owned land that included the tract outlined by the misshapen rectangle. R. vol. 5, p. 104. Dakota Plaster dug these deep mines in the north and east portions of the property. These mines were essentially gigantic underground tunnels and were dug using the "room and pillar method." The tunnels are outlined in yellow in the diagram below and lie entirely within the rectangle of land the State later acquired and mined.



R. vol. 4, pp. 4161-66, 4171.

The next known² mines were dug by the State. In 1985, the Cement Plant, a subdivision of the State, purchased the property and obtained permission to mine it under Permit 424. R. vol. 5, p. 106. The State claims that, unlike Dakota Plaster, it never tunneled. Instead, the State admits to mining gypsum from 16 acres of the property (and an additional half acre

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 $^{^2}$ In 1930, U.S. Gypsum bought Dakota Plaster and Dakota Plaster transferred the property to U.S. Gypsum. R. vol. 5, p. 105. U.S. Gypsum may have mined part of it. R. vol. 5, p. 105.

from adjacent land³) by surface mining—digging a gigantic, open-air pit and extracting gypsum as it was exposed. R. vol. 5, pp. 107-08. As the State admits, it was "blast[ing] three times a week on average" during this period of time. R. vol. 4, pp. 4160-61. It estimated that 35,000 tons of gypsum were mined from the Hideaway Hills site every year. E.g. R. vol. 4, pp. 4109. The State made tens and perhaps hundreds of millions of dollars from this gypsum. See R. vol. 4, pp. 1153-54; Office of the State Treasurer, Fiscal Year 2023 Annual Report 5 (2023), https://sdtreasurer.gov/wp-content/uploads/2023/12/

ANNUAL-REPORT-2023-Office-of-the-State-Treasurer.pdf.

But that does not mean the State ignored the deep tunnels dug by

Dakota Plaster. The State concedes that it conducted "blasting" in the

"underground mine area" on "a five-acre portion of the land in the

northeastern side the property." R. vol. 5, p. 107. The State claims that it

conducted this blasting to "close[]" the underground tunnels. R. vol. 5, p. 107.

But the State's employees testified that the State conducted the blasting to

see if it could uncover more gypsum. R. vol. 4, pp. 4181-82 ("Q. And what was
the purpose of doing that test shot? What was the goal? A. To see how much

gyp[sum] was in the area."); see also R. vol. 5, p. 61 (admitting that the State

"checked the blasting area for gypsum and determined that there was

³ The adjacent land bordered the rectangle to the south and was owned by a Mr. and Mrs. Pengra. R. vol. 5, p. 108.

insufficient gypsum to take"). The employees further testified that the blasting uncovered some "gypsum that was visible," which the State "removed" and then "process[ed] at the cement plant." R. vol. 4, pp. 4155-57.

But the State mined more than just the admitted 16.5 acres. One

State employee conceded that the State had "at one time or another affected
all of the land within the" rectangle. R. vol. 4, pp. 4107, 4127, 4130; vol. 6, p.

346. And that statement is further supported by geological testing. WesternEGI, an engineering firm, took geophysical borings from the following
locations throughout the Hideaway Hills subdivision:



R. vol. 4, pp. 4539 (indicating bore holes in red).

As a result of the firm's investigation, "mine voids were found outside the known limits of mining." R. vol. 4, p. 4333. These borings demonstrated that the State's "mine workings likely extend further to the east and south

than are currently mapped." R. vol. 4, pp. 4330, 4333. Additionally, the State appears to have conducted mining to the north of the area it claims it mined. R. vol. 4, pp. 4332-33. This additional mining explains the documentary evidence showing that "higher gypsum tonnage was removed from the mine than what can be accounted for from the workings that have been mapped." R. vol. 4, p. 4333. In short, Plaintiffs provided substantial evidence that the State had mined most of the area underneath the current Hideaway Hills subdivision.

II. The State improperly reclaimed the property under Hideaway Hills.

In 1990, the State converted its mine *permit* into a mine *license* to comply with a change in South Dakota law. *See* R. vol. 4, pp. 4101, 4103. As part of that change, the State was "required to reclaim any land affected under the permit and the license in accordance with the terms of SDCL 45-6." R. vol. 4, p. 4103. Reclamation involves filling in, regrading, and revegetating a strip-mined pit with suitable soil to "provide for appropriate future beneficial" use of the property and ensuring that the "area outside of the affected land" was "protected from slide, subsidence, or damage." SDCL § 45-5-67(1), (7); *see also* S.D. Amin. R. 74:29:07:07(8) (1993).

The State's reclamation was further governed by a set of regulations found at S.D. Admin. R. 74:29:07 (1993), which were first promulgated in 1988. Under those regulations, the State was required to "rehabilitate the affected land to a condition that meets the selected postmining land use."

S.D. Admin. R. 74:29:07:01(1) (1993). "All reclaimed slopes and slope combinations" likewise had to be "suitable for the postmining land use" and "structurally stable." S.D. Admin. R. 74:29:07:04(1)(b)-(c) (1993). If the selected postmining use was "rangeland," then property needed to "have the capacity to support a livestock carrying capacity that is equivalent to that of the surrounding area." S.D. Admin. R. 74:29:07:20(1) (1993). The material used in reclamation was to be either "topsoil" from the site or "other suitable material." S.D. Admin. R. 74:29:07:07(8) (1993). The State was required to "prevent or minimize subsidence that may result from mining activities." S.D. Admin. R. 74:29:07:16 (1993). If "subsidence cannot be prevented," then "measures must be taken to minimize damage to and loss of value of property and to minimize hazards to livestock, wildlife, and humans." Id. Any "existing underground mine workings intercepted by surface mining activities" were to "be sealed during reclamation." S.D. Admin. R. 74:29:07:17 (1993).

The State asserts it reclaimed anywhere from 16.5 to 32 acres, but "[t]he extent of final reclamation performed at the site" by the State "is not documented." R. vol. 4, pp. 4141, 4325; vol. 5, pp. 109-10. What is documented, however, is that "the soils used to backfill the mine consisted of locally present material derived from the pulverization of soft sedimentary rock and gypsum." App. 313; see also R. vol. 4, p. 4169 ("I do remember there was a lot of backfill and overburden available on the site from the

operations."). Indeed, the State used fill that contained a significant amount of pulverized gypsum. R. vol. 4, pp. 4329-48. "Pulverized gypsum was present in nearly all of the samples that were Spearfish Formation derived fill," for instance. App. 313. Moreover, in their brief in support of summary judgment, Defendants admitted "for the purposes of this motion" that "fill' is in every location Plaintiffs alleged." R. vol. 5, p 88.

The State haphazardly mixed the pulverized gypsum in with other fill materials during the backfill and reclamation process. R. vol. 4, p. 4340. "The stiffness of the fill materials . . . varied by location and randomly with depth, indicating inconsistent compaction effort during placement of the materials." App. 313. "It was obvious from these findings that the fill material used to reclaim the strip mine was not controlled during placement." R. vol. 4, p. 4329. Laboratory testing revealed that 28% of the total reclamation material used in Hideaway Hills was gypsum, with the composition of any given area ranging "from 5.6% to 85.6% by volume." R. vol. 4, pp. 4240, 4542.

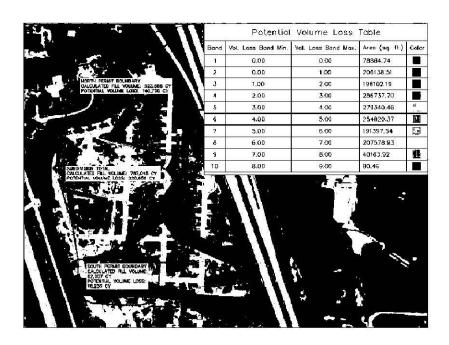
In addition to pulverized gypsum, the State also used trash to "backfill the surface mine." R. vol. 4, p. 4241. "Placing trash in fill leads to improper compaction and as these materials decay and disintegrate there is an associated loss of volume. General engineering practice is to not allow trash or organic materials to be used as fill." R. vol. 4, p. 4241. Additionally, the State's reclamation also ran afoul of a mining regulation that requires that

"[a]ll refuse from mining operation, including garbage and rubbish, must be disposed of in an approved landfill." S.D. Admin. R. 74:29:07:05 (1993).4

Evidence of reclamation has been discovered "beneath the vast majority of the property that became Hideaway Hills." R. vol. 4, p. 4333.

And "extensive amounts of fill exist beneath homes and infrastructure throughout the subdivision." App. 313. The samples recovered from the engineering firm's bore holes, together with the remainder of the firm's geotechnical investigation, revealed almost 40 acres of reclamation materials underlying the subdivision.

⁴ While S.D. Admin. R. 74:29:07:05 (1993) permits on-site disposal if it "complies with the South Dakota solid waste regulations in article 74:27," the State's disposal of waste materials on the Hideaway Hills property did not meet these requirements. See S.D. Admin. R. 74:27:08:01 (2011) (requiring a permit before solid waste can be disposed); 74:27:11:05 (2011) (prohibiting disposal sites within 1,000 feet of a highway); 74:27:12:09 (2011) (requiring public access to the site be restricted with "fences, gates with locks, and similar controls").



R. vol, 4, p. 4540. And that does not even fully cover the area in the northeast corner that the State admits it reclaimed. R. vol. 5, p. 109.

"The extremely poor fill material that was used to reclaim the surface mining operation presents several hazards to properties and infrastructure" in Hideaway Hills. R. vol. 4, p. 4347. Specifically, the "amount of gypsum contained in the fill material" threatens "the overall stability of the subdivision." App. 323. "Damage to surface structures from gypsum being mixed into soils is a well understood problem in the Black Hills." App. 323. If water ingresses into fill that contains pulverized gypsum, it can lead to settlement and cracking, which ultimately causes subsidence or collapse on the surface. R. vol. 4, pp. 4343-45. "As the finely pulverized gypsum dissolves, it creates piping through the soils, which creates a conduit to allow more water to easily enter the subgrade, leading to the dissolution of more gypsum." App. 323. The settlement observed so far "is almost certainly

attributable, in large part, to the loss of gypsum from runoff entering the subgrade fill." App. 324. And while the process can sometimes be gradual, the gypsum fill can also collapse suddenly. R. vol. 4, p. 4347.

Additionally, the engineering firm's testing revealed that there are unsupported voids from old mines beneath the surface that could also lead to subsidence or sudden collapse.⁵ (P's Ex.15 pp 31-32). The danger presented by these voids is significant, but not as widespread as the danger presented by the improper reclamation that underlies almost the entire subdivision. As a result, the danger from improper reclamation is more serious and more comprehensive than the danger from the underground mining voids. R. vol. 4, pp. 4347-48. That is why the engineering firm concluded that the risk of sudden collapse from the improperly reclaimed surface mines presented the greatest danger to Plaintiffs' properties and lives—even more than the voids left over from older mining operations. R. vol. 4, pp. 4347-48.

This risk of sudden collapse has existed from the moment the State improperly reclaimed the property. "Settlement of the fill is inherent of the fill section itself, and has occurred and will continue to occur regardless of the land use or occupancy by structures or infrastructure." R. vol. 4, 4242-43. In other words, the State's improper reclamation left the land on an inexorable

⁵ In its summary judgment filings, Defendants admitted that "some but not all of the homes in the Hideaway Hills Subdivision are experiencing settlement in varying degrees." R. vol. 904-06.

path toward sudden collapse regardless of how it was used. Even if the Plaintiffs had never bought the land, or if they bought it and left it empty, it would have eventually started settling and collapsing just as it is now.

Nor can the State shirk responsibility for its role in creating these dangerous conditions. Hideaway Hills would not "be in the same situation if the State would not have mined that property." R. vol. 6, p. 357. The State's "extensive" mining throughout the property and then inadequate reclamation with "poor fill material" will destroy Plaintiffs' properties. R. vol. 4, pp. 4347-48; vol. 6, p. 357.

III. The State did not properly disclose the risks before selling the property.

In 1992, the State claimed to have finished reclaiming the site. R. vol. 4, p. 4538. The State Board of Minerals certified compliance with reclamation requirements as of January 20, 1993. R. vol. 4, p. 4538. However, the Board made this certification less than two years after the mine was closed, thereby violating the two-year waiting period requirement imposed by Permit 424. R. vol. 4, p. 4538. The State then put the property up for sale. R. vol. 4, p. 4197.

As part of the sale, South Dakota law required the State to appraise the property. R. vol. 4, pp. 4197-98. Under S.D. Admin. R. 74:29:07:01(1) (1993), the State was required to reclaim the land "to a condition that meets the selected postmining land use." Under the permit, the proposed use for the reclaimed land was rangeland—land where livestock is kept. *E.g.* R. vol.

4, p. 4112; vol. 5, p. 107; see also S.D. Admin. R. 74:29:07:20 (1993). But when it came time to sell, the State instead had the appraisers return an appraisal for the land's "highest and best use." R. vol. 4, p. 4203. The State did not inform the appraisers that the land had only been reclaimed to be rangeland at best. R. vol. 4, pp. 4199-200, 4207. Instead, the State let the appraisers report that the land had been "reclaimed to the current environmental standards." R. vol. 4, p. 4207. As a result, the appraisers labored under the misconception that "[n]o physical conditions exist which would preclude development." R. vol. 4, p. 4215.

That misconception influenced the appraisers' recommendation. Because the appraisers believed no physical conditions would preclude development, the appraisers were inclined to find that "residential subdivision" was the highest and best use. But they determined that a lack of utilities and commercial interest made a residential subdivision infeasible at that time. R. vol. 4, pp. 4215-16. So, the appraisers determined that the highest and best use of the property without utilities was as a "residential ranchette." R. vol. 4, pp. 4216. If utilities were run to the property and commercial interest developed, they added, the land would be ideal for a residential subdivision. R. vol. 4, 4215-16. The State allowed that appraisal to stand without correction.

The State subsequently sold the property to Raymond Fuss, who then gave it to his son Larry. R. vol. 5, p. 111. As part of that transaction, the

State "did not fully disclose the extent of past mining activities nor did they disclose that the site was reclaimed as pastureland and not to a standard that would support unrestricted use." R. vol. 4, p. 4326. Nor did the State mention the potential risks in the newspaper ad soliciting bids for the property. App. 128. And no "restriction to the deed was made preventing future development of the site for residential or other structural based uses even though it was known that the closure was not completed to a standard that would allow structural use at the time of sale or in the future." R. vol. 4, p. 4326; see also R. vol. 4, p. 4238.

The State reserved the mineral estate to itself as part of the deed. R. vol. 4, p. 4238. As a result, Larry Fuss received only the surface property, while the State retained ownership of the subsurface. R. vol. 4, p. 4238. The State retains ownership of the subsurface to this day.

Larry Fuss eventually sold his surface rights in the property to a developer, Bryon Keith Kuchenbecker. R. vol. 5, pp. 112-13. Larry had heard rumors of mines on the property, though he was not personally aware of any, so he offered a general disclaimer to Kuchenbecker just to be safe. R. vol. 5, pp. 317-18, 376. Upon receiving the disclaimer, Kuchenbecker went to the State Cement Plant to get "information regarding the mining." App. 541. But the State told him "only" that "the land had been reclaimed and that they thought that" the "other min[es]" had been "pushed in, reclaimed." App. 542.

Given the rumors of past mining, various subsequent purchasers allegedly used various disclaimers. See R. vol. 5, p. 119. But despite deposing every Plaintiff in this litigation, the State identified no current homeowner who knew about the mines underneath the property at the time of purchase. More importantly, when the State, as the continuous subsurface owner, originally sold the land, it never disclaimed the quality of the subsurface or its reclamation efforts. R. vol. 4, p. 4238. It provided no disclaimers, warranties, or restrictions on development at all. See R. vol. 4, p. 4238; see also R. vol. 4, p. 4326. The State's failure to disclose the reclamation facts or limit future development allowed plaintiffs to build their homes on a surface that was heading toward collapse, regardless of use.

IV. Plaintiffs' property begins to collapse.

Kuchenbecker obtained approval to develop the Hideaway Hills property in 2002 and commenced development soon after that. R. vol. 5, p. 114. While Kuchenbecker conducted some grading of the property, "grading for the subdivision was relatively minor." R. vol. 4, p. 4345. It did not stretch down the thirty-plus feet that the States' fill material reached. *See* R. vol. 4, pp. 4006-92, 4347-402; vol. 5, p. 17. Development was completed around 2005. R. vol. 5, p. 117.

Once residents began moving in, sinkholes and settling began to be observed, starting in 2008. R. vol. 5, p. 120. On April 27, 2020, a giant sinkhole opened up on East Daisy Drive, rendering the settling and collapsing of the Hideaway Hills neighborhood unmistakable. R. vol. 4, p.

4328; vol. 5, p. 121. As a result of the collapse, thirteen homes have been evacuated. R. vol. 4, pp. 4328, 4362.

Subsequent investigations revealed that these and other homes in Hideaway Hills had already begun to experience damage due to the insufficient support provided by the State. "Several of the properties at the site have depressions in landscaped areas that are typical signs of potential sinkhole subsidence features." App. 342. The homes themselves are "showing signs of distress and settlement." R. vol. 4, p. 4328. "[S]ome homes exhibit[] significant settlement and others only hav[e] minor cracking," for now. R. vol. 4, p. 4328. There are cracks in the foundations, walls, and corners. R. vol. 4, p. 4328. And "floor slabs in some basements are heaving." R. vol. 4, p. 4343. By way of comparison, the "surface infrastructure and general surface grading is in worse condition at Hideaway Hills than Northdale despite being several years newer." R. vol. 4, p. 4242. Northdale is the subdivision immediately south of Hideaway Hills.

The damage has only worsened during the course of litigation. In 2023, "several residents in the subdivision reported more active settlement around their homes." R. vol. 4, p. 4329. There has also been continuous "expansion of the mine collapse site." R. vol. 4, p. 4242. This damage will only get worse, until it becomes catastrophic—with Plaintiffs' homes experiencing a sudden and total collapse. R. vol. 4, pp. 4344-45.

STANDARD OF REVIEW

Summary judgment is appropriate if "there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." SDCL § 15-6-56(c). On appeal, this Court reviews summary judgment rulings de novo. Geidel v. De Smet Farm Mut. Ins. Co. of South Dakota, 2019 S.D. 20, ¶ 7.

Where the evidence supports conflicting reasonable inferences, the factual dispute is genuine. Discovery Bank v. Stanley, 2008 S.D. 111, ¶ 16 (citing A-G-E Corp. v. State, 2006 S.D. 66, ¶ 17). A genuine factual dispute is material when it "affect[s] the outcome of the suit." Stern Oil Co., Inc. v. Brown, 2012 S.D. 56, ¶ 13 (citing Robinson v. Ewalt, 2012 S.D. 1, ¶ 10) (cleaned up).

ARGUMENT

By engaging in faulty reclamation and thereby depriving Plaintiffs of necessary subjacent support for their land and houses, Defendants took and damaged Plaintiffs' land for public use. Therefore, the State must provide just compensation.

I. Because Defendants took and damaged Plaintiffs' land for public use, they are not protected by sovereign immunity.

The Circuit Court erred in granting the State summary judgment on the issue of sovereign immunity and denying summary judgment for Plaintiffs on the issue of public use. Sovereign immunity does not apply because all exercises of the eminent domain power are compensable under the State Constitution, regardless of whether the harm could also be characterized as a tort. Moreover, property taken or damaged by the operation and reclamation of a state gypsum mine is taken or damaged for public use, not as part of the exercise of a police power.

A. Sovereign immunity does not apply to an inverse condemnation claim, even if it resembles a tort.

The fundamental flaw in the Circuit Court's decision was its belief that Plaintiffs could not bring a claim for inverse condemnation because their claim was actually a tort claim, and tort claims are barred by sovereign immunity. R. vol. 6, p. 1175-76. In reaching this holding, the Circuit Court committed several errors in reasoning: (1) relying on a dissent and inapplicable federal caselaw instead of this Court's binding precedent; (2) failing to recognize that sovereign immunity does not bar recovery in inverse condemnation just because the facts might also support a tort claim; (3) failing to recognize that if a taking or damaging also happens to constitute a tort, then the Taking and Damages Clause abrogates sovereign immunity for it; and (4) failing to recognize that courts must use property and tort law to determine when the government's conduct constitutes an unprivileged invasion of citizens' property rights.

1. This Court has already rejected the Circuit Court's reasoning.

The Circuit Court erred by ignoring this Court's majority decision in Long v. State, 2017 S.D. 79. Instead, when the Circuit Court held that Plaintiffs' inverse condemnation claim was barred because it was "really" a "negligence or tort" claim "cloaked in inverse condemnation," the Circuit Court expressly relied on a dissent. R. vol. 6, p. 1175. (citing *Long*, 2017 S.D. 79, ¶¶ 60–84 (Gilbertson, J., dissenting)). As the Circuit Court stated:

"In determining whether Landowners are entitled to compensation, the threshold question . . . is whether the claim presented . . . is actually one of inverse condemnation or if it is instead one of tort." Long v. State, 2017 S.D. 79, ¶ 66. This Court is aware this citation is from [a] dissenting opinion. . . . [O]ther supporting cases shore up [t]his dissent.

R. vol. 6, p. 1175 (cleaned up). Yet, this Court's majority opinion in Long rejected that reasoning: "Because there were not any tort claims pending, the State cannot raise the affirmative defense of sovereign immunity." Long, 2017 S.D. at ¶ 17.

Next, the Circuit Court unsuccessfully tried to diminish its rejection of this Court's binding precedent with a halfhearted attempt to distinguish Long: "[T]the very issue presented by the current Defendants wasn't addressed by that Court." R. vol. 6, p. 1175. After all, the Long plaintiffs' "claim arose out of placement, engineering, and design" of a highway and its drainage, unlike here, the Circuit Court noted. R. vol. 6, p. 1175 (cleaned up). But the court never identified any material difference between those facts and the facts of this case or explained why any such difference mattered. Nor could it, because, as this Court's cases show, the principles of eminent domain apply to a myriad of diverse factual circumstances, such as seizing prisoners' private property, Cody v. Leapley, 476 N.W.2d 257, 261 (S.D. 1991), destroying commercial elk herds, South Dakota Dep't of Health v. Heim, 357

N.W.2d 522, 524 (S.D. 1984), and poisoning trees, *Rupert v. City of Rapid City*, 2013 S.D. 13, ¶¶ 17, 39-44.

The Circuit Court also erred in believing that cases from outside South Dakota bolstered the dissent in Long. The three cited United States

Supreme Court cases, Sanguinetti v. United States, 264 U.S. 146 (1924),

Keokuk & Hamilton Bridge Company v. United States, 260 U.S. 125 (1922),

and Hughes v. United States, 230 U.S. 24 (1913), applied the federal constitution's takings clause, which is facially different from South Dakota's Taking and Damages Clause.

In Sanguinetti and Keokuk, the Supreme Court of the United States held that a government-caused invasion of private property was not severe and pervasive enough to constitute a compensable taking. Sanguinetti, 264 U.S. at 149–50, Keokuk & Hamilton Bridge Company, 260 U.S. at 127. But the South Dakota Constitution specifically allows just compensation for this kind of injury through the "or damage" language in its Taking and Damages Clause. Rupert, 2013 S.D. at ¶ 9.

In *Hughes*, the United States Supreme Court rejected a federal takings claim based on periodic flooding caused by a new levee and a one-time flood caused by blowing up a different levee that protected the plaintiff's land. *Hughes*, 230 U.S. at 35. The latter was a response to an emergency and was therefore an exercise of the police power rather than the eminent domain power. *Id.* at 34–35. The former followed naturally from the legal

proposition that no riparian owner has a property right in having the volume of water flowing by her property not exceed the volume that existed at the exact time the property owner took preventative steps to protect her land from flooding. *Id.* at 33–35; *cf. Jackson v. United States*, 230 U.S. 1 (1913). Neither principle applies here.

Similarly, in New Holland Village Condominium v. DeStaso

Enterprises Ltd., 139 F. Supp. 2d 499 (S.D.N.Y. 2001), the Southern District
of New York rejected another federal takings claim based on certain
defendants' alleged violation of "a duty to warn of possible flood damage
resulting from bad weather" and "to repair damage to [a dam] caused by a
private actor." Id. at 503. Again, this was under the federal constitution's
taking provision, which is different from and narrower than South Dakota's.
And on top of that, no government actor has any such tort- or property-based
duty. See Maher v. City of Box Elder, 2019 S.D. 15 (explaining that under the
public duty rule, government officials and employees generally have no tort
duty to fulfill or enforce the law or to protect members of the public).

These cases support neither the dissent in *Long* nor the Circuit Court's interpretation of the South Dakota Constitution. The Circuit Court erred in relying on them.

2. <u>Sovereign immunity bars tort claims, not inverse</u> condemnation claims.

In Long, the majority⁶ held that the plaintiffs' selection of a legal theory is dispositive: "Landowners in the present case dismissed their tort claims, leaving only the inverse condemnation claims." Long, 2017 S.D. at ¶ 17. Accordingly, because "there were not any tort claims pending, the State cannot raise the affirmative defense of sovereign immunity." Id. The State specifically argued in that case that the landowners' "claims sounded in tort" and were therefore barred by sovereign immunity. Brief of Appellants at 8, Long, 2017 S.D. 79, 2015 WL 13653037, at *8 (No. 27368); Oral Argument at 6:20-26, Long, 2017 S.D. 79 (No. 27368). But this Court ruled that was not true and analyzed the claims solely under the law of inverse condemnation. Long, 2017 S.D. at ¶ 17.

As an illustration, in Rupert, this Court affirmed offensive summary judgment for the plaintiffs on the inverse condemnation claim but granted summary judgment for the defendants on the tort claims of trespass and negligence. Rupert, 2013 S.D. at ¶¶ 17, 39-44. The Rupert decision treated the inverse condemnation theory of recovery as wholly separate from the tort theories, even though they were based on the same underlying facts: the City

⁶ Justice Kern wrote the majority opinion, in which Justice Severson joined. While Justice Zinter concurred specially, he agreed completely with Justice Kern's sovereign immunity analysis. *Long*, 2017 S.D. at ¶¶ 58-59 (Zinter, J., concurring).

put de-icer on a public street even after being informed that the de-icer was running off onto the Ruperts' land and killing their trees. *Id.* The plaintiffs' decision to identify and articulate a separate inverse condemnation claim, even when brought simultaneously with tort claims based on the same conduct, prevented the Court from even considering combining the two. "Inverse condemnation, rather than trespass, is the appropriate theory for granting damages to an injured landowner where the trespasser is cloaked with the power of eminent domain." *Id.* at ¶ 42 (quoting *Tuffley v. City of Syracuse*, 442 N.Y.S.2d 326, 330 (1981)); *see also Krsnak v. Brant Lake Sanitary Dist.*, 2018 S.D. 85, ¶¶ 30, 33 (distinguishing between inverse condemnation and tort theories).

As these cases demonstrate, conduct that is "really a tort" can also form the basis of an inverse condemnation claim. If the Circuit Court were correct in holding otherwise, then this Court would have ruled for the government defendants in *Long* and *Rupert*. But it did not. The distinction between tort theories and inverse condemnation theories matters because sovereign immunity cannot absolve the State of its obligation to provide just compensation for takings or damaging under Article VI, § 13.

For these reasons, courts in other states have expressly rejected the Circuit Court's rationale. On similar facts, these courts have held that the inverse condemnation claim was not a "mislabeled tort claim." Gaskin v. City of Jackson, 2012 WL 2865781, at *8–9 (Mich. Ct. App. July 12, 2012). They

have also held that inverse condemnation claims should be evaluated on their own terms, not conflated with tort claims. City of Mobile v. Lester, 804 So.2d 220, 230–32 (Ala. Civ. App. 2001) (noting that the plaintiffs' tort theory and inverse condemnation theory were both properly put to the jury although they were based on the same underlying facts); Mattingly v. St. Louis Cnty., 569 S.W.2d 251, 251–52 (Mo. Ct. App. 1978) ("We find the petition insufficient in tort, but sufficient as to inverse condemnation."); Brown v. Kansas Dep't of Transp., 1996 WL 35070084, at *2–4 (Kan. Ct. App. Sept. 13, 1996); Sanders v. State Highway Comm'n, 508 P.2d 981 (Kan. 1973); Harris Cnty. Flood Control Dist. v. PG & E Texas Pipeline, L.P., 35 S.W.3d 772, 773 (Tex. Civ. App. 2000).

3. Because the South Dakota Taking and Damages Clause requires just compensation, the State cannot have immunity for conduct that constitutes a taking.

If sovereign immunity ever existed for exercises of the eminent domain power, the Taking and Damages Clause "essentially abrogate[d]" it. Long, 2017 S.D. at ¶ 17 (quoting Rupert, 2013 S.D. at ¶ 43). As Rupert reasoned, because the Taking and Damages Clause requires the government to pay "just compensation" whenever it takes or damages private property for public use, the government has no immunity when it takes or damages private property for public use. Rupert, 2013 S.D. at ¶ 43.

Some cases suggest that sovereign immunity never existed for the eminent domain power in the first place. "[W]hen a condemnor validly exercises its authority, the condemnor's actions cannot be deemed 'tortious' or

in violation of any 'duty' that is necessary to support a tort." Long, 2017 S.D. at ¶ 20 (quoting Rupert, 2013 S.D. at ¶ 44). In so holding, Long and Rupert clarified that conduct that would be tortious if undertaken by a private entity is not wrongful—and is therefore inherently not tortious—if it is a proper exercise of the eminent domain power: "Inverse condemnation, rather than trespass, is the appropriate theory for granting damages to an injured landowner where the trespasser is cloaked with the power of eminent domain." Rupert, 2013 S.D. at ¶ 42 (quoting Tuffley, 442 N.Y.S.2d at 30). That is why this Court has sustained tort claims against entities with eminent domain power where the inverse condemnation claim was dismissed. See Krsnak, 2018 S.D. at ¶¶ 30, 33; Hyde v. Minnesota, Dakota & Pac. Ry. Co., 136 N.W. 92, 96 (S.D. 1912).

Further, the people of South Dakota expanded the power of eminent domain at the expense of sovereign immunity when they added the "damage" language to their Taking and Damages Clause: "The damages clause provides greater protection to property owners than the United States Constitution by requiring that the government compensate a property owner not only when a taking has occurred, but also when private property has been damaged." Hamen v. Hamlin Cnty., 2021 S.D. 7, ¶ 17 (quoting State ex rel. Dep't of Transp. v. Miller, 2016 S.D. 88, ¶ 39) (internal quotation marks omitted). In so doing, South Dakota expanded the eminent domain power—or at least its compensability feature—into tort territory. "The words 'or

damaged' were, without doubt, added to the usual provisions contained in earlier constitutions for the purpose of extending the remedy to incidental or consequential injuries to property, not actually taken for public use, in the ordinary acceptation of that term." Krier v. Dell Rapids Twp., 2006 S.D. 10, ¶ 23 (quoting Searle v. City of Lead, 73 N.W. 101, 103 (S.D. 1897)) (alteration in original). To prevent the "damage" provision from swallowing all tort liability, this Court has limited compensation for damages to situations where the citizen's damage is different in kind—and not just degree—from any injury suffered by the public at large. Long, 2017 S.D. at ¶ 17 (holding that a group of landowners near Highway 11 whose land was flooded suffered a different kind of injury that other property owners near Highway 11 whose lands were not flooded); Krier, 2006 S.D. at ¶ 28.

And because many "takings" and many "damagings" could be characterized as torts, barring any claim against the government if it is "really a tort" would eviscerate the constitutional guarantee of just compensation. That is why this Court consistently entertains inverse condemnation claims even though they could be recast as tort claims. For example, if a private toll road company builds a road with inadequate drainage that floods nearby properties, that is a trespass or negligence and perhaps a nuisance; if the government does it, it is a taking. *Long*, 2017 S.D. at ¶ 28 (emphasis added). If a private landowner puts de-icer on her driveway after snowstorms and it flows onto her neighbors' land and causes

damage, and she continues applying the de-icer after being notified of the damage, that is negligence and a trespass; if a local municipality does it, it is a taking. Rupert, 2013 S.D. at ¶ 2. If a farmer destroys his neighbor's commercial elk herd, that is a trespass to chattels; if the state does it and it was not reasonably necessary to prevent a tuberculosis outbreak, it is a taking. South Dakota Dep't of Health v. Owen, 350 N.W.2d 48, 51 (S.D. 1984); Heim, 357 N.W.2d at 524. If a prisoner steals his cellmate's copy of War and Peace, that is conversion; if the warden takes it, and it is not contraband, that is a taking. Cody, 476 N.W.2d at 261.

State conduct that would constitute a tort if committed by a private entity can be a taking. Holding otherwise would destroy the right to just compensation because most invasions of private property are defined by property and tort law.

4. Whether government conduct constitutes an invasion of a citizen's private property rights as defined by property and tort law.

Because "[a]ll supporting arguments for Plaintiffs' cause of action are premised upon the legal theory of breach of duty," the Circuit Court mistakenly believed that Plaintiffs' claim was a tort claim. R. vol. 6, pp. 1175-76. Many takings and many damagings can be characterized as torts because tort and property law together provide the legal framework that defines what constitutes an unprivileged invasion of a citizens' private property rights. Indeed, "[i]nverse condemnation law is tied to, and parallels, tort law." Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir.

2003) (quoting 9 Nichols on Eminent Domain § 34.03(1) (Patrick J. Rohan & Melvin A. Reskin eds., 3d ed. 1980 & Supp. 2002)). Other states have explicitly recognized that takings claims are based on underlying tort and property law concepts: "It is true that an inverse condemnation action for a taking by flooding is based upon a nuisance theory." Lea Co. v. North Carolina Bd. of Transp., 304 S.E.2d 164, 178 (N.C. 1983).

In Rupert, Rapid City owed a duty to the Ruperts to lay de-icer in a manner that did not pose unreasonable risk to the Ruperts' land and trees. By violating that duty, the city invaded the Ruperts' land and damaged their trees, thus effectuating a taking. In Long, the South Dakota Department of Transportation owed landowners near Highway 11 a duty to use reasonable care in draining surface water. By violating that duty, the Department invaded the landowners' land, thus effectuating a taking.

Besides, not every breach of a legal duty is a tort. For instance, if a landowner violates his neighbor's negative easement for a view by building a shed that blocks the neighbor's view of the ocean, the landowner has invaded his neighbor's property interest but has not committed a tort. *Patterson v. Paul*, 863 N.E.2d 527 (Mass. 2007). If the easement required the servient owner to affirmatively preserve the view, such as by trimming vegetation, the landowner's failure to do so would be a deprivation of the dominant landowner's property right. Similarly, here, the State's failure to fulfill its

property-based duty to provide adequate subjacent support deprived Plaintiffs of their property right to adequate subjacent support.

Therefore, the Circuit Court erred by concluding that Plaintiffs' claim was "really a tort claim" barred by sovereign immunity.

B. Owning, operating, and holding mining lands are public uses and are not exercises of the police power.

It is true that sovereign immunity bars liability for state conduct that constitutes an exercise of the police power. *Hurley v. State*, 143 N.W.2d 722, 725 (S.D. 1966). And there are fact patterns that can be difficult to classify as either an exercise of the police power or an exercise of the eminent domain power. *See id*. But many cases are easy to classify, and this is one of them.

1. Operating a mine and reclaiming land is not an exercise of the police power.

Mining and reclaiming land is far removed from the police power.

True, there may be some cases where "it is difficult to determine with exactitude when regulation under the police power ends and a compensable taking of private property begins." *Id.* The telltale sign of an exercise of the police power is when the State action is designed to protect the public from imminent harm, such as:

- "[I]n the face of impending enemy attack or in actual battle."
 City of Rapid City v. Boland, 271 N.W.2d 60, 65 & n.1 (S.D. 1978).
- "[T]o prevent an imminent public catastrophe," such as to stop widespread flooding. Id. at 65.

- To abate a public nuisance, such as a herd of elk infected by tuberculosis. *Owen*, 350 N.W.2d at 51; *Heim*, 357 N.W.2d at 524.
- To impose reasonable traffic regulations. Darnall v. State, 108
 N.W.2d 201, 206 (S.D. 1961).
- To "[a]pprehend a fleeing felon." *Hamen*, 2021 S.D. at ¶¶ 23, 30.
- To impose penalties (e.g. forfeiture) for acts or omissions prohibited by statute. Cody, 476 N.W.2d at 261.

In all the examples above, a failure by the State to take action would have resulted in physical injury—if not death—to South Dakota citizens. No such concerns drove South Dakota to mine or reclaim the Hideaway Hills property. In short, these examples are utterly unlike owning and operating a mine and holding mineral interests.

2. <u>Defendants operated the Hideaway Hills mine and held its</u> <u>mineral interest thereafter for public use.</u>

"Public use, as used in Article VI, simply means use by the public."

Montana-Dakota Utilities Co. v. Parkshill Farms, LLC, 2017 S.D. 88, ¶ 10

(quoting Ill. Cent. R.R. Co. v. East Sioux Falls Quarry Co., 144 N.W. 724, 728

(S.D. 1913)) (internal quotation marks omitted). When the condemning authority is a government entity, the public use requirement is automatically satisfied because the government embodies the public. That is true even when it is not clear how the seizure directly benefits the populace. See Cody, 476 N.W.2d at 261 (holding that a warden's seizure of non-contraband from

prisoners would constitute a taking even though the seizure did not benefit the public and the public had no right to use the contraband). For instance, if the government took private land to build a state-run bio-warfare research facility, that would satisfy the public use requirement even if access to the building is strictly limited to high-level civilian and military officials.

No party disputes that the Cement Plant, which was a state entity, acquired a parcel of land on which most of Hideaway Hills now sits. R. vol. 5, pp. 104, 117. Nor does the State dispute that it mined gypsum from the land. R. vol. 5, pp. 106, 108. Most or all of the gypsum was taken to the State's cement factories and used to manufacture the state's cement. Thereafter, the Cement Plant sold the land but retained the mineral rights, which are generally called the "subsurface estate." See, e.g., Tyonek Native Corp. v. Cook Inlet Region, Inc., 853 F.2d 727, 728-29 (9th Cir. 1988). As discussed more thoroughly below, the Cement Plant's acts and omissions in violation of its legal duties to the surface owners proximately caused the subsidence and collapses that have already happened in Hideaway Hills and will continue to cause more subsidence and collapses until all the class members' surface estates—and the houses on them—fall into the ground. See infra Argument §§ II-III; see also R. vol. 4, pp. 4325-26, 4535-36.

The use of land to help supply the Cement Plant with raw materials is a public use. This Court has already recognized that "the manufacture of cement, under the conditions existing in the state of South Dakota, is the carrying out of a public purpose." See Eakin v. South Dakota State Cement Comm'n, 183 N.W. 651, 651 (S.D. 1921); see also In re Opinion of the Judges, 180 N.W. 957 (S.D. 1920). Additionally, as explained below, the damage Plaintiffs suffered resulted from the Cement Plant's mining and faulty reclamation—in other words, the State's public use of the subsurface mineral estate. Moreover, the land still contains gypsum deposits that could be mined in the future if mining technology advances to the point that extracting those deposits becomes economically viable. The only category that fits the state's actions here is public use.

* * * * *

Because sovereign immunity bars liability based on a tort theory but not on an inverse condemnation theory, the Circuit Court erred in granting summary judgment for Defendants on sovereign immunity. Further, inverse condemnation applies since the extraction of gypsum for a state cement plant is a public use. Therefore, the Circuit Court erred in not granting summary judgment to Plaintiffs on the issue of public use.

II. By depriving Plaintiffs of lateral and subjacent support for their land, Defendants committed a taking.

"Private property shall not be taken for public use, or damaged, without just compensation." S.D. Const. Art. VI, § 13. Defendants' conduct, including their reclamation efforts, effected a taking by depriving the class members of the lateral and subjacent support necessary to keep their land

from falling into the abyss. The Circuit Court should have reached the issue of Defendants' liability and held that they effected a taking.

A. When a state entity removes subjacent or adjacent support, it commits a taking.

This Court has recognized that there "is no magic formula that enables a court to judge, in every case, whether a given government interference with property is a taking" under the South Dakota Constitution. Long, 2017 S.D. at ¶ 23 (cleaned up). "Instead, the viability of a takings claim depends upon situation-specific factual inquiries." Id. at ¶ 23 (cleaned up).

At the same time, some categories of government interference have been repeatedly recognized as takings. Depriving a citizen's land of adequate subsurface or lateral support is one of them. Below, Plaintiffs asked the Circuit Court to recognize that South Dakota's Taking and Damages Clause covered this claim, and further that strict liability applies to this claim just as it would under the common law. The Circuit Court declined to do so. This Court should correct that error by awarding Plaintiffs offensive summary judgment on their theories that the failure to provide adequate subsurface support is a taking under the South Dakota Constitution and that strict liability applies to it—at least for land in its natural condition.

The "great weight of authority, both English and American, undoubtedly supports the rule that . . . the owner of the surface has an absolute right to necessary support for his land." *Collins v. Gleason Coal Co.*, 115 N.W. 497, 498 (Iowa 1908). Accordingly, if ownership of the surface and

the subsurface estates are split, the subsurface owner must leave sufficient support for the surface to remain in its natural condition. *Id.* This duty is absolute and liability is strict: a "defendant is subject to strict liability for withdrawing naturally necessary subjacent support." See Restatement (Second) of Torts § 820 cmt. b (Am. L. Inst. 1979); Samuel W. Crowe, Lessons from Centralia in Coal Mine Subsidence Liability, 8 Tex. J. of Oil, Gas, & Energy L. 230, 236-38 (2012); Bruce M. Kramer, The Legal Framework for Analyzing Multiple Surface Use Issues, 44 Rocky Mtn. Min. L. Found. J. 273, 280 (2007) ("The doctrine creates a strict liability regime; the unforeseeability of the subsidence, the impossibility of removing the mineral without damage, and the use of utmost skill and care to prevent subsidence are irrelevant to the liability issue."); LoValerie Mullins, The Equity Illusion of Surface Ownership in Coalbed Methane Gas, 16 Miss. Environ. L. & Pol'y Rev. 109, 144 (2009); Howard L. Boigon & Christine L. Murphy, Liabilities of Nonoperating Mineral Interest Owners, 51 Univ. Col. L. Rev. 153, 179 (1980).

Not only is the strict liability rule long standing, it is also founded on sound equitable principles. "[S]trict liability places the loss from an activity proven to generate risk of loss on the one who benefits from the activity rather than an innocent party." Haseman v. Orman, 680 N.E.2d 531, 535 (Ind. 1997). As a result, numerous cases recognize that strict liability applies to any subsurface owner who removes necessary support from the surface owners' land. See, e.g., Ambrosia Land Invs., LLC v. Peabody Coal Co., 521

F.3d 778, 785 (7th Cir. 2008) (holding that "liability depends not on fault but arises from its absolute duty to provide the surface with support"); *Haseman*, 680 N.E.2d at 533 ("There is no dispute here that Coal, Inc., as the mining operator, is strictly liable to the plaintiffs for their subsidence damage."); *Platts v. Sacramento N. Ry.*, 205 Cal. App. 3d 1025, 1029 (Ct. App. 1988) ("Under the law of subjacent support, California follows the common law rule that the owner of subjacent support is absolutely liable for damages caused to the surface owner by removal of the natural necessary support.").

This Court has adopted the same reasoning in its own decisions and applied it even to adjoining properties. Under this Court's precedents, a defendant is absolutely liable for violating "the right to support from [a plaintiff's] adjoining land." *Ulrick v. Dakota Loan & Tr. Co.*, 49 N.W. 1054, 1055 (S.D. 1891), overruled on other grounds by Long v. Collins, 82 N.W. 95 (S.D. 1900). In *Ulrick*, for example, the defendant was excavating his own land too close to the property line and caused his neighbor's property to give way. *Id.* This Court held that the defendant was absolutely liable for the damage he caused to plaintiff's land, regardless of whether he operated with "negligence and unskillfulness." *Id.*

South Dakota's statutes likewise enshrine this respect for surface owners' property rights. Mineral developers are "responsible for all damages to property, real or personal, resulting from an interference caused by mineral development." S.D.C.L. § 45-4A-6. The right of property owners to

subjacent support from their neighbors is enshrined in S.D.C.L. § 45-4-13. The right of surface owners to prevent miners from mining their subsurface until surety is paid and be compensated for any loss in land value by mineral development is codified in S.D.C.L. §§ 45-4-13 & 45-5A-4. And these statutes explicitly permit property owners to seek any "other remed[y] allowed by law." S.D.C.L. § 45-5A-10.

Taking this rule one step further, South Dakota has recognized that strict liability can be imposed based on a landowner's omissions and inaction. See Salmon v. Peterson, 311 N.W.2d 205, 206 (S.D. 1981). In Salmon, the defendant inherited a retaining wall from a prior owner and failed to properly maintain it. Id. at 205-06. The retaining wall eventually collapsed, removing necessary support from the plaintiff's land and causing a ditch to form. Id. at 206. This Court held that "the burden of providing lateral support to the plaintiff's land in its natural condition is one of continued support running against the servient land." Id. (quoting Gorton v. Schofield, 41 N.E.2d 12, 15 (Mass. 1942)). As a result, where a defendant fails to stop a deterioration on its own property that will cause its neighbor's property to collapse, it is strictly liable under South Dakota law. See id. at 207.

True, strict liability only applies to damage to unimproved land—meaning the land itself. See id. at 206 (citing Ulrick, 49 N.W. at 1055).

Recovery for damage to houses, sheds, and other improvements is not governed by strict liability under this rule. See id. That does not mean that

plaintiffs cannot recover damages to structures on their property, however.

Damages for injury to houses, personal property, and other improvements injured due to insufficient subsurface support are available if the plaintiff can show that the defendant failed to use reasonable care. See Ulrick, 49 N.W. at 1056. Moreover,

[W]hile generally the law of lateral support has retained this distinction between the surface in the natural state and the improvements, subjacent support decisions have held that the weight of structures is normally insignificant relative to the weight of the superincumbent strata. Therefore, the burden of proof is on the mineral owner to show that the weight of the structure caused or contributed to the subsidence. Because this is a nearly impossible burden, courts normally find that the surface would have subsided regardless of the structures. Thus, courts award consequential damages for injury to structures based on the breach of the absolute duty to support the surface in its natural condition.

Timothy W. Gresham & Monroe Jamison, Do Waivers of Support and Damage Authorize Full Extraction Mining?, 92 W.V. L. Rev. 911, 916-17 (1990) (footnotes omitted).

Given South Dakota's longstanding recognition of liability for individuals who remove necessary subsurface or lateral support from another's land, this Court should recognize it as a damaging under the State Constitution with liability for damage to land in its natural condition based on strict liability and liability for damage to improvements and improved land based on regular negligence principles. Just like the flooding that damaged lands and homes in *Long* or the de-icer that damaged trees in *Rupert*, the State's improper reclamation in this case damaged Plaintiffs'

property and set their homes up for sudden collapse. Recognizing a taking under these "situation-specific fact[s]" would thus be consistent with the kinds of injuries this Court has previously recognized as a damaging.

Additionally, applying strict liability would be appropriate given the significant protections South Dakota law has offered surface owners for over a century. Particularly here, where the State used the subsurface for commercial gain, it makes sense to place "the loss from an activity proven to generate risk of loss on the one who benefits" from it and has total control over it, rather than the surface owner who has no ability to affect a subsurface he does not own. See Haseman, 680 N.E.2d at 535.

Recognizing a strict liability taking or damaging under these facts would align the law of South Dakota with the law of most other states. In most other American jurisdictions—nearly all of those that have considered the question—the removal of subjacent or lateral support constitutes a compensable taking or damaging.⁷ And of those few states that have held

⁷ Los Osos Valley Ass. v. City of San Luis Obispo, 30 Cal. App. 4th 1670, 1680 (Ct. App. 1994) (holding that a city took or damaged privately owned buildings when it removed their subjacent support by withdrawing subterranean groundwater); Bjorvatn v. Pac. Mech. Const., Inc., 464 P2d 432, 434 (Wash. 1970) (en banc) ("The removal of lateral and subjacent support from adjoining property in the construction of a sewer for a municipality or subdivision of the state is, in our opinion, a damaging of property for a public use for which the condemnor must make just compensation."); Gaskin v. City of Jackson, 2012 WL 2865781, at *8–9 (Mich. Ct. App. July 12, 2012) (allowing an inverse condemnation claim to proceed on the theory that the local municipality's well pumps withdrew lateral and subjacent support by sucking the surrounding soil dry, which resulted in settling, which in turn caused property damage to surface structures); City of

Mobile v. Lester, 804 So.2d 220, 230–32 (Ala. Civ. App. 2001) (approving of an inverse condemnation claim based on government repairs to underground drainage that removed groundwater and damages surface structures through resulting settling); Sanders v. State Highway Comm'n, 508 P.2d 981, 986–91 (Kan. 1973) (allowing an inverse condemnation claim based on highway construction excavation that removed lateral support for homeowners' backyards); State ex rel. Dep't of Transp. v. Winters, 10 P.3d 961, 969 (Or. Ct. App. 2000) (concluding that if the state's "activities on the condemned property cause a loss of lateral support in the future, an additional compensable taking may occur"); City of Newport v. Rosing, 319 S.W.2d 852, 953-54 (Ky. Ct. App. 1958) (holding that a local government perpetrated a taking when it removed the lateral support for certain homes, which were destroyed as a result); Brewitz v. City of St. Paul, 99 N.W.2d 456, 460–65 (Minn. 1959) (allowing a claim for inverse condemnation based solely on the withdrawal of lateral support of a citizen's property); Mattingly v. St. Louis Cnty., 569 S.W.2d 251, 251–52 (Mo. Ct. App. 1978) (allowing an inverse condemnation claim based on the removal of lateral support by construction excavation); City of Ft. Smith v. Findlay, 893 S.W.2d 358, 360-62 (Ark. Ct. App. 1995) (reversing an inverse condemnation verdict based on withdrawal of lateral support on the ground that the evidence did not show a causal connection between the condemnation and certain structural damage); Fellowes v. City of New Haven, 44 Conn. 240 (1876) (holding that a landowner whose lateral support was withdrawn by a municipality had already been compensated for the taking); City of Atlanta v. Kenny, 64 S.E.2d 912, 917 (Ga. Ct. App. 1951) (holding that removal of lateral support caused a compensable "damaging" under the Georgia Constitution); Kane v. City of Chicago, 64 N.E.2d 506, 509 (III. 1945) ("Under the provision of the constitution prohibiting private property from being damaged for public use without the payment of just compensation, recovery may be had for damages to a building caused by the removal of lateral support resulting from the construction of a public improvement in an adjoining street."): State ex rel. Dep't of Transp. and Dev. v. Chambers Inv. Co., Inc., 595 So.2d 598, 602 (La. 1992) ("The same phenomenon occurs when compensation is given for state action that causes the owner a loss of riparian rights, an impairment of easements or servitudes the owner has on neighboring land, the violation of his restrictive covenant on nearby land, or loss of lateral support."); City of Tupelo v. O'Callaghan, 208 So.3d 556, 570–72 (Miss. 2017) (assuming that removal of lateral support could constitute a taking); Langdon v. Maine-New Hampshire Interstate Bridge Auth, 33 A.2d 739, 740 (N.H. 1943); Sherover Const. Corp. v. City of New York, 295 N.Y.S. 925, 929–30 (N.Y. Sup. Ct. 1937); State Highway Comm'n v. L.A. Reynolds Co., 159 S.E.2d 198, 202–03 (N.C. 1968); Schilling v. Carl Twp., 235 N.W. 126, 131 (N.D. 1931) ("But when private property is taken because of the removal of lateral support, it is 'damaged in public

that the removal of necessary subsurface support is not a taking, none of their constitutions' eminent domain provisions contain "or damaged" language. See Weir v. Palm Beach Cnty., 85 So.2d 865, 868 (Fla. 1956); Freigy v. Gargaro Co., 60 N.E.2d 288, 290 (Ind. 1945). There are also some states that have not decided this question.

The "underlying intent of the [damages] clause is to ensure that individuals are not unfairly burdened by disproportionately bearing the cost of projects intended to benefit the public generally." See Hall v. State ex rel. South Dakota Dep't of Transp., 2011 S.D. 70, ¶ 30 (quoting DeLisio v. Alaska Super. Ct., 740 P.2d 437, 439 (Alaska 1987)). In accordance with that principle, this Court should hold that the State's removal of necessary subsurface support constitutes a taking and damage under the South Dakota

use."); City of Cincinnati v. Penny, 21 Ohio St. 499, 503–04 (1871) (limiting the right of lateral and subjacent support by adjacent public street); Branham v. Metro. Gov't of Nashville-Davison Cnty., 2016 WL 4566095, at *6 (Tenn. Ct. App. Aug. 30, 2016) (rejecting on other grounds a claim for inverse condemnation based on withdrawal of lateral support); City of Amarillo v. Gray, 304 S.W.2d 742, 744–45 (Tex. Civ. App. 1957) (approving an inverse condemnation claim based on withdrawal of lateral support), reversed in part on other grounds by City of Amarillo v. Gray, 310 S.W.d2d 737 (Tex. 1958); Farmers New World Life Ins. Co. v. Bountiful City, 803 P.2d 1241, 1244-45 (Utah 1990) (approving the concept of a claim for inverse condemnation based on the withdrawal of lateral support); Chairman of Highway Comm'n of Virginia v. Fletcher, 149 S.E. 456, 457 (Va. 1929) (approving removal of lateral support as an element of damages in an inverse condemnation case); French v. City of Bluefield, 139 S.E. 644, 644-45 (W. Va. 1927) (holding that the removal of lateral support by a municipality constituted a compensable taking); Damkoehler v. City of Milwaukee, 101 N.W. 706, 708 (Wis. 1904).

Constitution and that strict scrutiny applies to damages to land in its natural condition.

B. By depriving Plaintiffs of necessary subjacent and lateral support, Defendants effected a taking.

The State's liability necessarily follows. After all, the State concedes that it mined the property. See R. vol. 5, p. 109. (admitting the Cement Plant mined 16.5 acres of the property). And the State admits that it reclaimed an additional 15 acres on the property. R. vol. 5, pp. 109-10. In other words, of the approximately 38 acres in Hideaway Hills that the State retains subsurface rights to, the State admits to reclaiming 31.5 of them. As part of its reclamation efforts, the State built both the underlying subsurface and surface itself, which Plaintiffs now either own or adjoin. See R. vol. 5, p. 109 (noting that reclamation involves seeding and grading). This surface is no longer adequately supported but is instead subsiding and collapsing. See R. vol. 5, pp. 120-21.

Based on these undisputed facts, offensive summary judgment should have been granted, at least as to partial liability. The State's actions here were not meaningfully different than those of the defendant in *Salmon*. *See Salmon*, 311 N.W.2d at 206. In *Salmon*, the defendant was liable for failing to adequately maintain a retaining wall on her property that directly supported the elevated soil in her neighbor's property. *Id.* Here, the State failed to adequately maintain (or deposit in the first instance) the fill dirt that underlays and adjoins the Plaintiffs' surface land in Hideaway Hills.

Like the retaining wall in *Salmon*, the States' improper fill eventually gave way. Thus, like the defendant in *Salmon*, the State too should be strictly liable for the damage to the surface of Plaintiffs' property that is now subsiding and collapsing. *See* Restatement (Second) of Torts § 820 cmt. g (Am. L. Inst. 1979) (providing that if a miner provides an artificial support underneath the surface for an area it previously mined—in other words, reclaims it—the "inadequacy of the artificial support . . . subjects the actor to the liability stated in this Section.").

The State does not appear to contest that Plaintiffs' properties are subsiding into the ground, or at least that sinkholes are appearing in Hideaway Hills.⁸ See R. vol. 5, p. 120. Indeed, the photographic evidence is undeniable. See App. 282, 285-86, 288-89. The State has further admitted to providing the fill dirt for at least 31.5 acres, including the mines in the northeast corner of the property that it specifically conceded it reclaimed. R. vol. 5, p. 108. As a result, this Court should award partial summary judgment in Plaintiffs' favor, at least to the extent of ruling that strict liability principles govern the State's liability for its failure to adequately support Plaintiffs' unimproved surface land. Which specific properties have

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⁸ See supra note 5.

not been supported and the specific damages incurred in each instance are separate issues that can be resolved by the trial court on remand.⁹

The State will undoubtedly object to this holding. But none of its arguments can ultimately prevail for four reasons.

First, any attempt by the State to cast blame onto Dakota Cement or any of the property's previous owners does not absolve it of liability. R. vol. 5, p. 97. As demonstrated by Salmon, the current property owner has a duty to maintain its own property to ensure that an adjoining property does not lose subsurface support. See Salmon, 311 N.W.2d at 206-07. Here, the State has already admitted to mining at least 16.5 acres of Hideaway Hills, establishing independent liability regardless of Dakota Cement's past mining activities. R. vol. 5, p. 109. In addition, the State specifically admitted to blasting and collapsing the land above the Dakota Cement tunnels and then grading over them. R. vol. 5, p. 108. It then severed the surface estate it had built on top of those tunnels and sold it. R. vol. 5, p. 111. Once that surface estate was sold, the State had a strict duty to maintain the surface it had offered to the buyer, regardless of whether another individual's prior mining would have alone affected the subsidence. See Island Creek Coal Co. v. Rodgers, 644 S.W.2d 339, 345 (Ky. Ct. App. 1982) (holding that miner whose

⁹ For instance, while some Plaintiffs' properties are outside the original plot of land that the State owned, these Plaintiffs still have claims for inverse condemnation because the State's use of insufficient fill materials on the adjoining land is causing their land to subside and risk collapse. *See Salmon*, 311 N.W.2d at 206.

tunnels collapsed due to a separate mine's blast was strictly liable for failing to support surface right of homeowners above its own tunnels).

Second, the fact that there are buildings built on top of the collapsing land does not absolve the State of liability. True, in South Dakota, strict liability governs damages for "injury to the land itself, in its natural condition," not injuries caused by "the superadded weight of improvements." *Ulrick*, 49 N.W. at 1055 (S.D. 1891). But as Plaintiffs' experts found, the property would have subsided and collapsed regardless of whether structures were built on it or not. R. vol. 4, pp. 4242-43. And that is obvious to anyone who visits the neighborhood. Portions of the Hideaway Hills subdivision with no structures on top of them are sinking.

This is unsurprising. The "weight of the supported artificial additions is generally slight compared with the weight of the supported land." Restatement (Second) of Torts § 820 cmt. d (Am. L. Inst. 1979); see also Gresham & Jamison, supra, at 916-17. As a result, when a plaintiff demonstrates that their land is sinking due to insufficient subsurface support, the "burden is placed on the defendant actor of introducing evidence that the land would not have subsided if there had been no artificial additions on it." See id. Since Plaintiffs' land itself is collapsing, including unimproved land, the State is strictly liable for at least some damages, to be specifically proved at trial.

Third, the passage of time since the State reclaimed the property does not eliminate the States' liability. The State has a *present-day* obligation to maintain support. *See Salmon*, 311 N.W.2d at 206-07. In other words, no time at all has passed since the State's improper conduct by way of omission; it continues to this day.

In Ambrosia, "there was no dispute of fact that the mining affecting the property occurred over forty years prior to the suit." Ambrosia, 521 F.3d at 786. But because the defendant's failure to properly support the surface had caused the collapse, the lapse of time was no bar to the application of strict liability principles. See id. So too here. Because the State's inadequate reclamation has led to the subsurface failing to support the surface of Plaintiffs' properties, the State is strictly liable even though several years have passed. That is particularly so here, where the subsurface has remained under the State's continuous and exclusive control since the deficient reclamation occurred.

South Dakota has adopted this principle and gone even further in the takings context. In Long, the South Dakota Department of Transportation constructed Highway 11 in 1949. Long, 2017 S.D. at ¶ 2. "At the time of construction, the DOT installed various culverts" for drainage purposes. Id. Thereafter, various people purchased and built homes on land in a sub-basin within the nearby Spring Creek Tributary Basin. Id., ¶ 2; Brief of Appellants at 6–7, Long, 2017 S.D. 79, 2015 WL 13653037, at *6–7 (No. 27368); Oral

Argument at 2:20-3:00, Long, 2017 S.D. 79 (No. 27368). In 2010, the DOT slightly improved the drainage culverts. Long, 2017 S.D. at ¶¶ 5–6; Oral Argument at 8:50-9:30, Long, 2017 S.D. 79, 2015 WL 13653037 (No. 27368). Shortly thereafter, a large rain event occurred. Long, 2017 S.D. at \P 7. The culverts were unable to handle the high water volume; the waters backed up and flooded the sub-basin, causing significant property damage. Id. at $\P\P$ 7-8, 12. The majority specifically rejected the idea that the damage to the landowners' homes had to be foreseeable at the time Highway 11's original drainage was constructed: "Rather, to determine foreseeability as it relates to causation, we must look to when the damage was done." Id. at \P 19 n.4, 27; Oral Argument at 36:07-37:20, Long, 2017 S.D. 79, 2015 WL 13653037 (No. 27368) (a justice noting that the result of ruling for the plaintiffs was to impose on the State a duty to continually reassess its drainage to determine whether changing weather conditions and new construction made the State's drainage a threat to private property).

Like the houses in *Long*, Plaintiffs' houses here were built and their damage incurred long after the State's original actions that ultimately led to the taking. Just as foreseeability in *Long* was measured at the time the damage was inflicted rather than at the time of the State's conduct, here foreseeability should be measured at the time of the collapses and subsidence rather than at the time the State purportedly reclaimed the land on which Hideaway Hills sits.

Fourth, and finally, the State cannot escape liability by blaming Kuchenbecker or arguing that Fuss or Kuchenbecker had knowledge of the underlying mines' existence or that Plaintiffs received notice of potential subsurface issues. R. vol. 5, p. 97. As an initial matter, Kuchenbecker's "minor" grading did not place trash and pulverized gypsum over thirty feet deep into the subsurface. See R. vol. 4, pp. 4006-92. It was the State that chose to "incorporate[]" a "wide range of gypsum content" into the fill. R. vol. 4, pp. 4240.

More importantly, a subsurface owner is strictly liable to the surface owner for removing the necessary surface support unless the surface owner expressly releases the subsurface owner from that liability. See Gabrielson v. Cent. Serv. Co., 5 N.W.2d 834, 837 (Iowa 1942) ("[I]n the absence of clear contractual waiver the owner's right to subjacent support for the surface is absolute."); Graham v. Drydock Coal Co., 667 N.E.2d 949, 953 (Ohio 1996) (holding that such a release must be "expressly included in the deed or contract"). That release must "clearly appear[], from the language used in the conveyance, to have been the intention of the parties." Walsh v. Kansas Fuel Co., 137 P. 941, 942 (Kan. 1914). The surface owner's mere knowledge about the mines' existence, therefore, is not enough. Accordingly, whether Fuss, Kuchenbecker, or Plaintiffs knew about the mines is irrelevant, as irrelevant as whether the homeowner in Salmon knew that his neighbor was failing to inadequately maintain her fence. It is the subsurface or adjacent

property owner that is liable for causing their land to give way, unless the owner has been expressly released from liability by the surface or adjacent surface owner. Here, the State has identified no document expressly releasing the State from liability. As a result, the State is strictly liable to Plaintiffs for the subsidence and collapse risk in this case.

* * *

In accordance with South Dakota law, this Court should hold that as a matter of law the State is strictly liable in inverse condemnation for any subsidence of unimproved land within the 31.5 acres of the Hideaway Hills Subdivision that it admitted to reclaiming.

CONCLUSION

For the foregoing reasons, this Court should reverse the trial court's order and hold that the State is not entitled to summary judgment, but rather that Plaintiffs are entitled to summary judgment on the issues of the mines' operation and ownership for public use, the removal of necessary subsurface support being a compensable damaging, and the application of strict liability principles to land damaged in its natural state.

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REQUEST FOR ORAL ARGUMENT

Appellants respectfully request the privilege of appearing before the Court for oral argument.

CERTIFICATE OF COMPLIANCE

I certify that the Appellants' Initial Brief is within the limitation provided for by this Court's Order Granting Joint Motions for Additional Words in Appellants' Opening Brief and Appellees' Responsive Brief and Extending Time for Both Parties. Appellants' Initial Brief contains 12,339 words.

I certify that the word processing software used to prepare this brief is Microsoft Word 365.

Dated this 24th day of January 2025.

Kathleen R. Barrow FOX ROTHSCHILD

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on January 24, 2025, a true and correct copy of Appellants' Initial Brief in this matter was served via Odyssey File and Serve upon Robert Morris at bobmorris@westriverlaw.com, Robert B. Anderson at rba@mayadam.net, Justin Bell at jlb@mayadam.net, and Terra M. Larson at terra@mayadam.net.

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IN THE SUPREME COURT

OF THE

STATE OF SOUTH DAKOTA

Appeal No. #30899

ANDREW MORSE and JOHN and EMILY CLARKE, for themselves and on behalf of all similarly situated individuals,

Appellants,

V.

STATE OF SOUTH DAKOTA and/or the SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successor to the SOUTH DAKOTA CEMENT PLANT COMMISSION and the SOUTH DAKOTA CEMENT PLANT

Appellees.

Appeal from the Circuit Court, Fourth Judicial Circuit Meade County, South Dakota The Honorable Eric Strawn, Presiding

APPENDIX

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STATE OF SOUTH DAKOTA))88	IN CIRCUIT COURT
COUNTY OF MEADE)	FOURTH JUDICIAL CIRCUIT
ANDREW MORSE and JOHN AN CLARKE, for themselves and on be similarly situated individuals,		46CIV20-000295
Plaintiffs,		JUDGMENT OF DISMISSAL
VS.		
STATE OF SOUTH DAKOTA, and SOUTH DAKOTA COMMISSION SCHOOL AND PUBLIC LANDS, successors of the SOUTH DAKOT CEMENT PLANT COMMISSION SOUTH DAKOTA CEMENT PLATRUST,	N OF as 'A I, and the	
Defendants.		

THIS MATTER came before the Court through cross motions for summary judgement pursuant to SDCL § 15-6-56. The Court granted summary judgment to Defendants and denied summary judgment to Plaintiffs. It is therefore

ORDERED, AJUDGED, AND DECREED this matter is dismissed on the merits with prejudice.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED, that Defendants are entitled to statutorily permitted taxation of costs and disbursements in the amount of

\$ \$72,432.37

10/15/2024 3:07:56 PM

BY THE COURT:

Attest: Molstad, Stephany Clerk/Deputy

> Hon. Eric Strawn Circuit Court Judge

> > Page 1 of 1

STATE OF SOUTH DAKOTA))SS	IN CIRCUIT COURT
COUNTY OF MEADE)	FOURTH JUDICIAL CIRCUIT
ANDREW MORSE and JOHN A CLARKE, for themselves and on similarly situated individuals,		PATENTIA BOLING BOT BY SECTION
Plaintiffs, vs.		ORDER GRANTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT AND DENYING PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT
STATE OF SOUTH DAKOTA, a SOUTH DAKOTA COMMISSIC SCHOOL AND PUBLIC LANDS successors of the SOUTH DAKO CEMENT PLANT COMMISSIO SOUTH DAKOTA CEMENT PLTRUST,	ON OF S, as TA N, and the	
Defendants		

THIS MATTER came before the Court for oral argument on August 12, 2024 through cross motions for summary judgement pursuant to SDCL § 15-6-56. The Court having considered all records and filings herein, the arguments of counsel, and the briefs herein submitted, the Court finds as follows:

The Court finds that no genuine issue of material of fact exists between the parties precluding the entry of summary judgement and the Court may rule as a matter of law. The Court further finds that as a matter of law, Defendants are entitled to summary judgment, and that Plaintiffs' motion for summary judgment is denied. It is therefore:

ORDERED, AJUDGED, AND DECREED that Summary Judgement IS GRANTED in favor of all Defendants and against all Plaintiffs in this matter. The Memorandum Decision issued by the Court on September 25, 2024 is thereby fully incorporated into this Order.

10/8/2024 9:42:10 AM

BY THE COURT:

Attest: Molstad, Stephany Clerk/Deputy

> Vion. Eric Strawn Circuit Court Judge

> > Page 1 of 1

STATE OF SOUTH DAKOTA)	IN CIRCUIT COURT
) SS.	
COUNTY OF MEADE)	FOURTH JUDICIAL CIRCUIT
ANDREW MORSE and JOHN a	nd)	
EMILY CLARKE, for themselve	s)	f .
and on behalf of all similarly)	46CIV20-000295
situated individuals,)	
)	
Plaintiffs,)	
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ν,)	
)	
STATE OF SOUTH DAKOTA)	
and/or the SOUTH DAKOTA)	MEMORANDUM OF DECISION
COMMISSION OF SCHOOL A	,	ON DEFENDANTS' MOTION
PUBLIC LANDS, as successor of)	FOR SUMMARY JUDGMENT
the SOUTH DAKOTA CEMENT)	
PLANT COMMISSION and the)	
SOUTH DAKOTA CEMENT)	
PLANT TRUST,)	
)	
Defendants.)	× ×

MOTION SUMMARY

This matter having come before the Court on August 12th, 2024 at 9:00 a.m., regarding Plaintiffs' Motion for Partial Summary Judgment and Defendants' Motion for Summary Judgment, Plaintiffs appeared by and through their attorneys Kathleen R. Barrow and David Grant Crooks of Fox Rothschild Law Firm in Dallas, Texas. Defendants appeared by and through their attorneys Terra Larson, Robert B. Anderson and Justin Bell, of May Adam in Pierre, South Dakota, and Robert L. Morris of Belle Fourche, South Dakota. The Court having considered the parties' submissions and supporting materials; the Court having reviewed the file in this matter and having heard oral argument, with good cause showing, issues its Memorandum of Decision.

PRELIMINARY PROCEDURAL MATTERS

After hearing the arguments of Counsel this Court took the matter under advisement and proceeded to re-review all submissions in the cross motions for summary judgment proceeding. Four (4) days later, Plaintiffs filed a pleading entitled Plaintiffs' Objection to Defendants' Assertion of the Affirmative Defense of Sovereign Immunity to Plaintiffs' Claim of Inverse Condemnation with Memorandum in Support. Defendants' filed their Motion to Strike: (the afore mentioned Objection). A series of responses and replies ensued. Defendants' moved to strike the late filing or what is also known as "supplemental briefing". Supplemental briefing should be produced at the request of the Court.

There was no such request by the Court at the end of the cross motions hearing. The Court took the matter under advisement and intended to produce its opinion based upon the prior submissions. Defendants' argue that such sua sponte supplementation by a party is not provided in SDCL 15-6-56. Defendants' are correct. This Court waited for either party to move its position correctly onto the docket for review by this Court. No such notice of hearing has issued and as a result this Court is inclined to address the issues presented without a hearing because the issuance of a decision on summary judgment is crucial as we are set for trial in forty days.

Defendants are correct regarding Plaintiffs' improper submission to this Court.

Plaintiffs' framed its objection in such a fashion as to suggest this Court's prior opinions bar a review of Defendants' position for summary judgment. Plaintiffs' assertion misses Defendants' new argument regarding their sovereign immunity defense. It's accurate that this Court issued two prior opinions relating to Defendants' request to dismiss premised on sovereign immunity; however, those decisions didn't consider the new arguments posed in summary judgment.

Furthermore, the prior decisions must be considered regardless of whether they were raised by Plaintiffs in their post hearing briefing. A trial court has discretion to review its own decisions, and in any case should regularly consult with its prior decisions to ensure consistency in its future opinions. Trial courts are regularly asked to reconsider their decisions before and after judgment under motions to reconsider. This Court has reviewed its prior decisions and will not disturb them at this time.

Interestingly, the supplemental briefing solidified the party's respective position on the impact the prior decisions have on summary judgment. This Court is aware at the appellate level, those two prior decisions will likely be appealed by the Defendants'; but, at this point, this Court is confident in its prior ruling regarding whether a class may be formed and thereafter pursue legally recognized claims against the State of South Dakota. This Court **DENIES**, Defendants' Motion to Strike.

This Court finds the Defendants' Motion for Summary Judgment raises a uniquely distinguishable and persuasive argument than what was presented in their Motion to Dismiss and resistance to the formation of a class. Defendants' specifically challenged the (1) "the legal ability to certify a class against the state for inverse condemnation," (2) "the standing of these plaintiffs to bring an inverse condemnation claim" and (3) "as a matter of law, the express covenant to claim is deficient and sovereign immunity bars any other claims made by Plaintiffs'." *Defendant's Memorandum in Support of Motion to Dismiss Petition for Class Action*, p. 4. Defendants' arguments relating to sovereign immunity in the first and last challenged issue arise in whether the State of South Dakota specifically waived sovereign immunity; however, nowhere do they argue the claims sound in negligence and or tort and therefore barred by sovereign immunity. Therefore, this Court OVERRULES Plaintiffs' Objection based upon the reasons set forth below.

FACTUAL BACKGROUND

In keeping consistent with this Courts first two decisions, it shall apply the same factual background: For 68 years, from 1924 to 1992, the land that is now "Hideaway Hills" was mined for gypsum for the benefit of the State's Cement Plant operations. Before the State purchased Hideaway Hills, the land was mined by Dakota Plaster Company, U.S. Gypsum Company, Western Materials Company, and Hills Materials Company. Underground mining was accomplished by the "room and pillar" method in the 1920s and 30s. Later, in the 1950s and 1960s, gypsum was mined underground by the pre-split blasting method. From 1911 through 1985, substantial mining activity took place throughout Hideaway Hills, encompassing and causing disturbance of the land in virtually all of Hideaway Hills, including underground mining and strip mining, as shown in photographs taken by the U.S. Army Air Corps., and the U.S. Geological Service. The State itself mined gypsum from Hideaway Hills, mining around the underground mine, in a large-scale mining operation from 1985, the year the State purchased the property, through 1992.

The State's mining operation pulled 135,227.58 tons of gypsum from Hideaway Hills, disturbing 275,227.58 tons of land, and creating (in addition to strip mining) a pit 300 feet wide, 24 feet high, and 45 feet deep. The State mined gypsum at Hideaway Hills under Permit 424 starting in 1985 and later, as required by state law commencing in 1990, under License 89-383, until 1992. The mining activity included strip mining over the location of the underground mine and elsewhere in Hideaway Hills, along with pit mining. Once the State's mining activities were completed in 1992, the State removed whatever gypsum was missed from all the underground mining, during its reclamation of Hideaway Hills. The State sold Hideaway Hills via a public

bidding process to Raymond Fuss on June 17, 1994, reserving to itself the subsurface estate. The warranty deed that was given to Raymond Fuss provides that the State, as grantor, "reserves unto itself all deposits of coal, ores, metals and other minerals, asphaltum, oil gas, geothermal resources, and other like substance in such land (except sand and gravel), together with the right to prospect for, mine, and remove the same upon rendering compensation to the owner or lessee for all damages that may be caused by such prospecting or removal." Put simply; the State is the mineral estate owner, also known as the subsurface estate, of the land that is now Hideaway Hills.

On April 27, 2020, a section of the State's mine on East Daisy Drive collapsed, leaving a large hole in East Daisy Drive. News reports about the collapse on East Daisy Drive triggered an investigation by a geologist, Nicholas Anderson, with his team of cave investigators, Adam Weaver and David Springhetti, into the subsurface below, which revealed a large underground mine. The mine investigation revealed 16 areas in the portion of the underground mine that could be seen actively collapsing in various regions of the accessible underground mine. The collapse left utilities severed and took out chunks of curb, gutter, and sidewalk. Plaintiff, putative class representative Andrew Morse, his wife, Sarah, and the rest of the Morse family were evacuated from their home in Hideaway Hills by the Meade County Sheriff due to the surface collapse on East Daisy Drive. Plaintiff, putative class representative John Clarke's backyard is within 200 feet of the collapsed area in Hideaway Hills. Mr. Clarke's home shows extensive distress and shifting since the mine collapse.

The collapse on East Daisy drive on April 27, 2020, was the Hideaway Hills residents' first notice that their homes were built on land with a subsurface incapable of supporting their homes.

The homes in Hideaway Hills are not safe to live in because the ground underneath them is

collapsing, sinking, and sliding. The subsurface of Hideaway Hills is incapable of safely supporting structures on the surface. The conditions of the parcels of property upon which the Hideaway Hills residents reside are interdependent, i.e., what happens to the subsurface of one home impacts the homes around it. Residents of Hideaway Hills may have little or no warning before a catastrophic subsidence event occurs. A staggering amount of dwellings in Hideaway Hills have significantly decreased in value, both because they are completely unsafe and uninhabitable and because the money it would take to fix a home and make it safe and stable far exceeds the fair market value of the house. There are 158 homes in Hideaway Hills and approximately 350 persons with a legal or beneficial interest in the homes in Hideaway Hills.

STANDARD OF REVIEW

A grant of summary judgment is proper if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. S.D. Codified Laws § 15-6-56(c); *Stern Oil Co., Inc. v. Brown*, 2012 S.D. 56, ¶¶8-9, 817 N.W.2d 395, 398-99. Summary judgment is not the proper method to dispose of factual questions. *Id.*

This Court determines whether summary judgment is proper by reviewing whether the moving party has "clearly demonstrat[ed] an absence of any genuine issue of material fact and an entitlement to judgment as a matter of law." *Luther v. City of Winner*, 2004 S.D. 1, ¶ 6, 674 N.W.2d 339, 343. "A disputed fact is not material unless it would affect the outcome of the suit under the governing substantive law in that 'a reasonable jury could return a verdict for the non-moving party." *SD State Cement Plant Comm'n v. Wausau Underwriters Ins. Co.*, 2000 S.D. 116, ¶ 9,

616 N.W.2d 397, 400-01 (quoting *Weiss v. Van Norman*, 1997 S.D. 40, ¶ 11 n2, 562 N.W.2d 113, 116 (internal citations omitted)) (emphasis added). "All reasonable inferences drawn from the facts must be viewed in favor of the non-moving party." *Tolle v. Lev*, 2011 S.D. 65, ¶ 11, 804 N.W.2d 440, 444.

"Yet, the party challenging summary judgment must substantiate his allegations with sufficient probative evidence that would permit a finding in his favor on more than mere speculation, conjecture, or fantasy." *Id.* Summary judgment is an extreme remedy, [and] is not intended as a substitute for a trial." *Discover Bank v. Stanley*, 2008 S.D. 111, ¶ 19, 757 N.W.2d 756, 762. Procedural issues will also result in a Court finding in favor of the moving party on summary judgment motions if there is a failure to comply with the timing requirements of SDCL 15-6-56(c) and a request for continuance under section 56(f) is not entertained.

When a party resisting a motion for summary judgment fails to properly resist the moving party's undisputed facts, the unchallenged facts are deemed admitted against the resisting party.

Hass v. Wentzlaff, 2012 S.D. 50.¶15, 816 N.W.2d 96,102.

ISSUES

1. Whether all of Plaintiffs' remaining claims sound in negligence or tort and are thereby barred by sovereign immunity.

OPINION

Defendants' continue to pursue their defense of sovereign immunity in their Motion for Summary Judgment. As an issue of sovereign immunity is "jurisdictional in nature," when not specifically waived, this Court considers it first. *Alone v. Brunsch, Inc.*, 2019 SD 41, ¶24. This Court determines this issue dispositive to all Plaintiffs' remaining claims.

Claims against the government are generally governed by that respective entity's constitution, statutes or other governing law. In South Dakota, Article III, §27 provides that "[t]he legislature shall direct by law and in what manner and in what court suit may be brought against the state." *Id.* The State's constitution allows individuals to present claims against the state when private property is taken "for public use, or damaged, without just compensation, which will be determined according to legal procedure established by the legislature and according to §6 of this article." SD Constitution, Art. III, §13. If there is no "constitutional or statutory authority, an action cannot be maintained against the state." *Lick v. Dahl*, 285 N.W.2d 594,599 (S.D. 1979).

Although there are no statutes specifically creating a claim of inverse condemnation, the claim is recognized in case law. Rupert v. City of Rapid City, 2013, ¶41-43, 827 NW2d 55, 61. These claims "stem[] from Article VI, § 13 of the South Dakota Constitution because Article VI, § 13 essentially abrogates sovereign immunity [and] [t]he abrogation of a governmental entity's sovereign immunity in cases involving a taking or damaging of private property is so fundamental that it is not found in statute, but rather in our Bill of Rights in the Constitution." Id.

Yet, when the claim itself sounds in tortious or negligent actions by the state than the defense may be presented. "In determining whether Landowners are entitled to compensation, the threshold question in [the] case is whether the claim presented . . . is actually one of inverse condemnation or if it is instead one of tort." Long v. State, 2017 SD 79, \$66. This Court is aware this citation is from former Justice Gilbertson's dissenting opinion; however, the very issue presented by the current Defendants wasn't addressed by that Court. As the current Defendants' point out the "defendants in Long argued that the claim arose out of "placement, engineering, and design." Defendants' Motion to Strike "Plaintiffs' objection..., p. 3. Furthermore, other supporting cases shore up his dissent including but not limited to Sanguinetti, v. United States, 260 U.S. 146,

150 (1924); Keokuk & Hamilton Bridge Company v. United States, 260 U.S. 125, 127 (1922); Hughes v. United States, 230 U.S. 24, 35 (1913); New Holland Vill. Condo. V. DeStaso Enters., 139 F. Supp. 2d 499, 503 (S.D.N.Y. 2001) and 4 Nichols, Eminent Domain, §14.245[1], pp.626-628 (Revised 3d Ed.), explaining: [i]f the damage for which the recovery is sought is the result of improper, unlawful or negligent construction recovery may not be had therefor in the [condemnation proceeding; the owner is relegated in such case to a common-law action for damages."

This issue is central to this Court's decision and the analysis provided in Defendants' Response provides support for this proposition, therefore this Court adopts the same as if this Court had set it out point by point and hereby makes reference to and agrees with the arguments and support therein. *See* Defendants' Response to Plaintiffs' Motion for Summary Judgment. pp. 4-9; further *See* Defendants' Brief Supporting Motion for Summary Judgment, Part I.D., p. 31; and 4 Nichols, Eminent Domain, § 14.245[1], pp. 626-628 (Revised 3rd Ed.)

In review of Plaintiffs' inverse condemnation claim, this Court holds that the claim, no matter how it is framed, ie., strict liability or otherwise, arises from actions of the state that sound in negligence or tort. All supporting arguments for Plaintiffs' cause of action are premised upon the legal theory of breach of duty by the State of South Dakota.

This Court reviewed the remaining claims and finds they are also supported by the same defect in that Plaintiffs' support is tethered directly to breach of duty theories. As explained above, causes of action arising from either tort or negligence, yet, cloaked in inverse condemnation claims in the hope of circumventing the defense of sovereign immunity, shouldn't prevail. 4 Nichols at §14.245[1] pp. 626-628.

Based upon the above rationale this Court hereby GRANTS Defendants' Motion for Summary Judgment and dismisses all claims in this matter. Defendants' shall prepare a proposed judgment consistent with this Memorandum of Decision and provide copies as required by statute to the opposing party. Defendants shall file the same in Odyssey for execution.

Dated this 20th day of September 2024.

BY THE COURT

The Hon Eric J. Strawn Circuit Court Judge

ATTEST:

Linda Keszler

Clerk of Courts

By: Shohan Moistad
Deputy



STATE OF SOUTH DAKOTA) IN CIRCUIT COURT
)SS
COUNTY OF MEADE) FOURTH JUDICIAL CIRCUIT

ANDREW MORSE and JOHN AND EMILY CLARKE, for themselves and on behalf of all similarly situated individuals,

46CIV20-000295

Plaintiffs,

VS.

STATE OF SOUTH DAKOTA, and/or THE SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successors of the SOUTH DAKOTA CEMENT PLANT COMMISSION, and the SOUTH DAKOTA CEMENT PLANT TRUST,

STATEMENT OF UNDISPUTED MATERIAL FACTS IN SUPPORT OF DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

Defendants.

COME NOW Defendants by and through their attorneys of record and hereby submit this Statement of Undisputed Material Facts in Support of Defendants' Motion for Summary Judgment.

FACTS

- 1. The State of South Dakota, through the South Dakota State Cement Plant Commission owned a piece of real property formerly legally described as Tract 1 of Lot 1 of the NW/4, less Lot AR and Lot H-1, and Lot 3 of the NE/4, less Lot H-1, Section 8: T2N-R7E in Meade County, South Dakota (hereinafter referred to as "the property") from 1985 to 1994. Exhibits 1 & 85.
- Commencing in the early 1900s the property was owned and mined for gypsum by Dakota Plaster. Exhibit 2.

- 3. Documentation demonstrates that Dakota Plaster mined the property starting in the early 1900s and up to potentially as late as 1930. Exhibit 3.
- 4. At some point, Dakota Plaster mined underground, using a room and pillar method of mining. It is not documented as to exactly what dates Dakota Plaster mined the underground, but the underground mine was not being used by 1927 and by 1930, the underground mine was being leased for refrigeration. *Id.*; Exhibits 4 & 5.
- 5. Dakota Plaster mined on both the surface and underground. Exhibits 3-5.
- It is unknown exactly where Dakota Plaster mined on the surface of the property.
 Exhibits 3-5.
- 7. In 1930 Dakota Plaster was acquired by U.S. Gypsum, which ran its business out of Piedmont, South Dakota. Exhibit 9.
- 8. The property was thereafter transferred to U.S. Gypsum and the mill was dismantled. *Id*. Exhibit 10.
- 9. There is no documentation showing that U.S. Gypsum mined the property, though it may have. *Id*.
- 10. In 1945 Edwin Stensaas purchased the property. Exhibit 11. He and his family resided on a house in the northwest corner of the property from 1945 to at least the late-1980s.
 Exhibit 12.
- 11. In approximately 1946, Hills Materials, a subsidiary of Northwestern Engineering (for whom Stensaas worked), started mining the property. Exhibit 13. It is known that in 1946, 2,066 tons of gypsum were supplied to the Cement Plant while 8,703 tons were shipped to Iowa. Exhibit 14. No documentation exists showing mining thereafter.

- 12. Goldie Prestjohn (now deceased), Stensaas's daughter, recalled Northwestern mining into the mid-1950s. Exhibit 12.
- 13. It is unknown where on the property Northwestern surface mined, but Prestjohn recalled mining in the northern area of the property. *Id*.
- 14. There is no documentation of underground mining performed by Northwestern, though the United States Bureau of Mines did discuss the presence of an abandoned underground mine at Black Hawk. Exhibit 15.
- 15. Between 1947 and 1985 there is no documentation demonstrating that the property was mined, or if it was, by whom.
- 16. Plaintiffs' designated experts, Doug Beahm, Brandt Lyman, and Nicholas Anderson, agreed that there is no evidence the State performed underground mining on the property. Exhibit 16, p. 70, 76; Exhibit 17, p. 171; Exhibit 18, p. 65, 70.
- 17. The Cement Plant purchased the property in 1985 for the purposes of mining it for gypsum. Exhibit 19.
- 18. The Cement Plant purchased the property via a contract for deed reserving a life estate for Stensaas to continue residing in his home on the northwestern side of the property.

 Id.
- 19. The Cement Plant received a permit to mine the property in 1985. The original permit was titled Permit 424. Exhibit 20.
- 20. The application for the 1985 permit was filed with the Meade County Register of Deeds on June 25, 1985. Exhibit 21.
- 21. Permit 424 was later converted to a mine license (License 89-383) in 1990 when the State procedures moved to a license system versus a permitting system. Exhibit 22.

- 22. The permit anticipated that the Cement Plant would surface mine in the southern portion of the property in a west to east fashion. Exhibit 23.
- 23. It anticipated mining seven acres, with a total disturbance area of eight acres of the 39-acre property. *Id.* Exhibit 24 (stating "currently area is used for pastureland and will be reclaimed as such.") & Exhibit 25.
- 24. As a courtesy to the South Dakota Game, Fish, and Parks, the Cement Plant agreed to return to pasture land the east half the property. Exhibits 24 & 26.
- 25. Prior to mining a particular area topsoil and overburden were removed by bulldozers and front-end loaders and stockpiled adjacent to the mine area. Exhibit 23 at 3663.
- 26. Once the area was completed topsoil and overburden were replaced by bulldozers and front-end loaders. *Id.* Final contouring was done with road graders. Seeding of the property was done with traditional seeders in either fall or early spring depending on the year. *Id.*
- 27. Mining began in April of 1986 and by June of 1986 the Cement Plant had mined two acres of land and did not reclaim any acres. Exhibit 27.
- 28. Between June of 1986 and July of 1987, the Cement Plant mined three acres. Exhibit 28.
- 29. It also started the grading and contouring process of a five-acre portion of the land in the northeastern side of the property. *Id*.
- 30. Part of that grading and contouring of the northern area involved blasting closed an underground mine area. Exhibit 29, p. 15.
- 31. Lyle Dennis, the blasting supervisor, oversaw the blasting of the underground mine area.

 Id.

- 32. Dennis confirmed he shot it and it collapsed. *Id.* They also checked the blasting area for gypsum and determined that there was insufficient gypsum to take so they graded and contoured it. Exhibit 30, pp. 22-23.
- 33. The five-acre area was graded and contoured after it was blasted. Exhibit 28.
- 34. Between July of 1987 and June of 1988, the Cement Plant mined two acres and reclaimed five acres. Exhibit 31.
- 35. It also commenced grading and contouring an additional portion of the east central side of the property, which is now known to be in the general vicinity of a portion of the underground mine at issue in this case. *Compare id. with* Exhibit 32.
- 36. Between June of 1988 and August of 1989 the Cement Plant mined three acres and reclaimed fifteen acres. Exhibit 33.
- 37. In 1989, the Cement Plant found that the ore body of the gypsum it was mining extended into the property to the south of the permit, so the Cement Plant signed a lease with Victor Pengra, the property owner to the south, and amended its permit to mine a little over a half-acre (100 feet by 250 feet) to the south, onto Pengra's property. Exhibit 34; Exhibit 92.
- 38. The mining permit application was filed with the Meade County Register of Deeds on June 27, 1989. Exhibit 35.
- 39. Between the last annual report in August 1989 and July 30, 1990, it mined three acres and reclaimed zero acres. Exhibit 36.
- 40. A map was provided with the annual report 1990 annual report showed a rectangle of where fifteen acres had been graded and seeded in the northern portion of the property. Exhibit 36.

- 41. The grading and seeding covered the two old mining areas previously graded and contoured. Exhibit 36.
- 42. Between the conversion of the permit to a license in 1989 along with the permit amendment, the Cement Plant was late in filing its annual report in 1991 and did so on January 6, 1992. Exhibit 37.
- 43. Between July 30, 1990 and the beginning of 1991, the Cement Plant mined its final three and one-half acres, including the half-acre of the Pengra property, and reclaimed the same. *Id.*
- 44. The three and a half acres was seeded in 1991 and grazed in 1992. *Id.* (noting discussion at bottom of page); Exhibit 38.
- 45. The annual report from 1991 lists total acres reclaimed since the site was originally permitted at thirty-two; which comprised of the fifteen acres to the north that were graded and seeded, but not mined, and the sixteen and one-half acres to the south that were mined (rounded up). Exhibit 37.
- 46. The initial mining inspection of the new license 89-383 dated July 18, 1991, listed total acres mined by the Cement Plant at sixteen acres (which should have been sixteen and a half acres, to account for the half acre of the Pengra property), with sixteen (which should have been sixteen and a half) acres reclaimed from actual mined area. Exhibit 39.
- 47. The final mine license inspection report somewhat accurately lists the total acres mined by the Cement Plant at sixteen acres (which should have been sixteen and a half acres, to account for the half acre of the Pengra property), with sixteen (which should have been sixteen and a half) acres reclaimed from actual mined area. Exhibit 38.
- 48. The 1992 report noted that hay was cut from the cite last year/summer. Exhibit 38.

- 49. The fifteen acres graded and seeded (which included the seven acres of old mining excavations that were graded, contoured, and seeded) in the northern portion of the land was not included within the acres reclaimed because it was not related to mining activities. *Compare* Exhibit 39 *with* Exhibit 38.
- 50. There is no evidence and Plaintiffs' experts agree that the Cement Plant mined or reclaimed outside of the permit area. Exhibit 17, p. 141.
- 51. The Cement Plant was released from its permit obligations on January 20, 1993. Exhibit 40.
- 52. The property was appraised on March 2, 1993. Exhibit 41.
- 53. As part of the appraisal process, the appraiser interviewed the Northdale Subdivision developer, who stated that the subdivision did not have excess capacity to provide utilities to the property and the subdivision itself was not profitable, so they had no plans of expanding it. Exhibit 41, pp. 2410, 2414.
- 54. The appraiser noted that the presence of Northdale's sanitary ponds immediately adjacent to the property was an adverse factor for development. *Id.* at 2409.
- 55. The appraiser concluded that any type of residential subdivision was foreclosed on the property due to lack of utility service availability. *Id.* at 2413.
- 56. The appraiser provided:

Buckingham Wood Produces stated that the Northdale development was not profitable, and no expansion plans of the subdivision are being considered. Also, the lack of utilities would negate the financial feasibility of any intense development. In summary, financial feasibility is limited to a residential ranchette; the previous use prior to the sale of the subject to the State Cement Plant for gypsum extraction. No other feasible use is noted.

Id. at 2414.

- 57. The Cement Plant solicited public bids for the sale of the property due on April 15, 1994. Exhibit 42.
- 58. The public notice was published in the Argus Leader and the Rapid City Journal. *Id.* It described the property, stated bids should be submitted to the Cement Plant, and if anyone had any questions about the property they should contact Vince Street or Steve Zellmer at the Cement Plant. *Id.*
- 59. Raymond Fuss submitted the winning bid of \$92,154 for the property. Exhibit 43. The property was deeded to Raymond Fuss with the Cement Plant reserving mineral rights to the property. Exhibit 85.
- 60. He purchased the property for his son, Larry Fuss. Exhibit 44, p. 9
- 61. Larry Fuss moved his family into the Stensaas house in 1998 but fixed up the house and rented it the year Raymond purchased it. *Id.* pp. 14, 19.
- 62. The first year Fuss owned the property, Dick Niehoff, hayed the alfalfa field, as he had done when the Cement Plant had owned the property. *Id.* pp. 14-16.
- 63. In subsequent years, until around 2000, Fuss leased the pasture to Tracy Settle for their horses to pasture. *Id.* p. 16.
- 64. Fuss had no intention of developing the property when he arranged for his father to purchase the property for him. *Id.* pp. 21-22.
- 65. Sometime in the 1990s, he received a "free house" and was told by Meade County he would need to subdivide the property to bring in the new house. *Id.* p. 27.
- 66. Fuss thereafter subdivided and platted the property into two lots; A and B, referred to as the Fuss Subdivision. *Id.*

- 67. The plat of the Fuss Subdivision was recorded with the Meade County Register of Deeds.

 Id.; Exhibit 45.
- 68. Fuss knew that the Cement Plant had mined the property on the surface and he was fully aware of the existing underground mine which was still present and known on the property. Exhibit 44, p 38; Exhibits 46 & 47.
- 69. He was aware that children used to play in the underground mine. Exhibit 44, p. 39.
- 70. He was also aware that the Stensaases had used the underground mine as a dump, disposing of old cars larger trash into the underground mine. Exhibit 47, p. 9250.
- 71. Around 1999 or 2000, Keith Kuchenbecker came to Fuss's house in a snow storm and asked Fuss if he would be interested in developing the property. Exhibit 44, pp. 26, 28.
- 72. Fuss expressed interest and the two started working together to construct a manufactured home park. *Id.* and 33.
- 73. Fuss was adamant that he was in favor of a manufactured home park because the homes were movable. *Id.* at 38-39.
- 74. He was concerned about a residential, stick-built development because of the underground mine on the property. *Id.*
- 75. His purchase agreement selling the property to Kuchenbecker specifically outlined and disclosed the underground mine. It stated:
 - 12. **CONDITION OF PROPERTY**. KUCHENBECKER have thoroughly researched, examined and tested the property to their own satisfaction and know that there may be excessive rock, underground cavities, foundations, and junk underground. KUCHENBECKER accept the property in an "as is" condition with no guaranty by FUSS that the property is suitable for any development contemplated by KUCHENBECKER.

Exhibit 47, p. 9250.

- 76. However, once Kuchenbecker started the process of developing stick-built homes Fuss "wasn't going to stop him and say, you can't do this." Exhibit 44, p. 39.
- 77. Fuss stated "I'm still helping him with the development, but I disclosed what I didn't have as facts of underground cavities, but I has hearsay and I had knowledge of Goldie Prestjohn and the Osgood kids that were my age playing in those underground caves. So I'm going to help him put his mobile home community there, but I still didn't recommend it for development." *Id*.
- 78. Both Kuchenbecker and Fuss initially approached the Meade County Commission about the idea of a residential mobile home subdivision. *Id.* p. 33; Exhibit 46.
- 79. On July 13, 2000 Kuchenbecker submitted a packet to the Planning Commission entitled "Hideaway Hills Manufactured Housing Community." Exhibit 46.
- 80. The packet contained the following excerpt:

In the 1980's the South Dakota Cement Plant mined the gypsum rock from the site. One can still identify spoil pile areas by abnormal terrain and exposed gypsum fragments. In the early 1900's an underground gyp mining operation took place on the NE corner of the property. Field boring operation may be required to identify any cavities that may be a safety hazard.

Id. p. 8451.

- 81. At some point Kuchenbecker decided to build a stick-built housing development over a manufactured housing development because Bob Mallow, a member of the Planning Commission, was more amenable to a traditional development. Exhibit 44, p. 40; Exhibit 48, p. 44.
- 82. Bob Mallow's house abutted the property to the northwest. Exhibit 49, pp. 7-8.
- 83. Fuss removed himself from the development process shortly thereafter, with Kuchenbecker paying him \$250,000 for the property. Exhibit 44, p. 37.

- 84. Fuss moved to Tucson, Arizona in 2003. Id. p. 51.
- 85. The County voted on August 19, 2002 to approve Phases 1, 2 and 3 of the development of the Hideaway Hills Subdivision. The County did not require field boring of the site. Exhibit 50, p. 6053.
- 86. Kuchenbecker commenced developing the property in about 2002. Exhibit 53, p. 8489.
- 87. He personally graded and scraped the development, with the help of John Ogden, another individual who Kuchenbecker could not recall, and his wife, Linda who occasionally followed the machinery with a water truck to help with compaction and dust. Exhibit 48, pp. 45-51.
- 88. Kuchenbecker contracted with Piedmont/Powles and Sons Construction (whose principal is Bob Powles, also a member of the Meade County Planning and Zoning Board, at the time) to do some of the trenching for utility lines. Exhibit 51, pp. 28-30; Exhibit 52, p. 7.
- 89. Powles's sons, Brandon and Timonthy did the trenching work. Exhibit 52, pp. 7-10.
- 90. Part of Kuchenbecker's development included leveling out portions of the property. Exhibit 44, p. 35, 52-55; Exhibit 54.
- 91. Kuchenbecker leveled a hill north of Pengra's property and moved the dirt to the middle of the development. *Id.*
- 92. Kuchenbecker also blasted a section of the property in the same area. Exhibit 55, pp. 27-32; Exhibit 56.
- 93. On or about April of 2004, as Kuchenbecker was taking a scraper over the northeast portion of the property on what would become the street of East Daisy Drive, his scraper wheel fell into a void. Exhibit 48, p. 68; Exhibit 53.

- 94. Upon inspection, he determined that the void was forty to fifty feet to the bottom and deep enough he had to repel into it. Exhibit 48, pp. 69-71.
- 95. He did not walk the length of the hole and he could not estimate how far the hole went under the ground. *Id*.
- 96. Kuchenbecker alleges that he told his realtor, Ronald Sjodin, John Ogden (a person helping him with the development), Bob Powles (who was also a member of the County Planning and Zoning Board), and his engineer, Doug Sperlich, about the void. *Id.* p. 73-74.
- 97. Sperlich and Powles deny ever being told about the hole. Exhibit 57, p. 65; Exhibit 51, pp. 46-47.
- 98. Sperlich was emphatic that Kuchenbecker never told him about the prior mining on the property, at all, and if he had known he would have done many more tests on the property to determine its fitness for residential development than he did. Exhibit 57, pp. 67-71.
- 99. Regardless, the solution to the hole (whether it was Sperlich's or Kuchenbecker's solution) was to fill the hole back in and compact the ground. Exhibit 48, pp. 75-76.
- 100. Thereafter, Kuchenbecker had American Engineering Testing ("AET") come out and drill bore holes in the footprint of the ten houses that would be built on East Daisy Drive to determine whether they would be over any voids. Exhibit 48, pp. 80-81, 84; Exhibit 58.
- 101. The holes went twenty-five feet deep and did not encounter voids and Kuchenbecker continued developing the subdivision. *Id*.

- 102. Kuchenbecker claims that when 2004 scraper hole occurred, he contacted the County and requested that the subdivision plan be amended to place cul de sacs on either end of the hole and make the area where the hole occurred green space. Exhibit 48, p. 78.
- 103. He alleges that the County told him to fix the problem and that they would not approve his plan. *Id*.
- 104. There is no evidence that Kuchenbecker approached the County about closing the road at that time.
- 105. In 2006, there were Planning Board meeting minutes discussing that the developer was asking to close Daisy Drive because it was "caving into the old underground mine." Exhibit 50, p. 6082. The Planning Board told the engineer present at the meeting to tell his clients to fix the road properly because it would not approve the closing. *Id.*
- 106. Not long after the April 2004 void was encountered, Brandon Powles encountered another void as he was digging utility trenches along East Daisy Drive. Exhibit 52, p. 21.
- 107. This void was smaller than the other void and was estimated to be six feet deep.

 Id.
- 108. According to Kuchenbecker, he again contacted Sperlich, and Sperlich advised him to fill the void, compact it, and encase the pipe in concrete for extra support. Exhibit 48, p. 104.
- John Odgen's recollection of the matter is materially different. Exhibit 55, pp.24-27. He did not believe Sperlich was called and stated that he and the Powles brothers suggested excavating the site to see what they were dealing with. *Id*.

- 110. It was Kuchenbecker who overruled them and told them to fill it, and then to encase the pipe with a steel casing that is used when sewer lines and water lines cross.

 Id.
- Sperlich affirmed that Kuchenbecker did not consult with him. Exhibit 57, pp. 61-62.
- 112. Kuchenbecker alleges that he consulted with and followed Sperlich's recommendations throughout the development process. Kuchenbecker stated he had Sperlich perform compaction testing on all of the roads within Hideaway Hills. Exhibit 48, pp. 66-67.
- 113. Sperlich alleges that he did not do compaction testing on the roads. Exhibit 57, pp. 19-20.
- 114. He did not perform SPT (standard penetration testing), bore hole analysis, or any work that he would have performed had he known the development was being built over an area that had been previously mined for gypsum and which had an abandoned underground mine on it. Exhibit 57, pp. 19-20, 67-71.
- 115. In fact, Sperlich stated he would not have taken on the project if he had known about the prior mining. Exhibit 57, pp. 67-71.
- 116. The Hideaway Hills 1 Subdivision was completed in around 2005.
- 117. It encompasses all of the property formerly owned by the Cement Plant, plus all of the former Lot C, which was Pengra's property. *Compare* Exhibit 59 with Exhibit 45.
- 118. Stensaas's house still sits in the development today but was readdressed to 6975 Meadow Rose Lane. Exhibit 60. Pengra's house still sits in the development today but was readdress to 6600 Meadow Rose Lane. *Id*.

- 119. In 2006, Brandon Powles, Timothy Powles, Kevin Backes and Odgen formed Canyon Construction and the County approved the development of the Hideaway Hills 2 subdivision, which is immediately to the east of East Daisy Drive in Hideaway Hills 1, in the area that formerly housed the Northdale Sanitary District's sewage ponds. Exhibit 52, pp. 11, 13; Exhibit 59.
- 120. Interestingly, the night that Hideaway Hills 2 was approved by the County was also the night that it was brought to the County's attention that East Daisy Drive was sinking into the underground mine. Exhibit 50.
- 121. Until recently, all of Hideaway Hills 2 and portions of the Northdale Subdivision were part of the lawsuit, even though the properties in Hideaway Hills 2 were under a sewage pond and the houses in the Northdale Subdivision had already been built by the time the Cement Plant was mining its property to the north. See Exhibit 62. (more beacons); see also Exhibits 61 & 83. Compare with Supplement to Report to the Court on Members of the Class, filed March 9, 2023 and Motion to Dismiss Claims of Certain Class Member without Prejudice, filed June 26, 2024.
- 122. However, Plaintiffs have since sought dismissal of the properties in the Northdale Subdivision and most of the properties within the Hideaway Hills 2 subdivision. See Motion to Dismiss Claims of Certain Class Member without Prejudice, filed June 26, 2024. Yet, there are still nine homes in Hideaway Hills 2, which were under a sewage lagoon when the Cement Plant surface mined, that Plaintiffs' counsel have refused to dismiss. Exhibit 88.
- 123. Kuchenbecker contracted with Sjodin on an exclusive listing basis for the sale of the lots in Hideaway Hills 1. Exhibit 63.

- 124. Sjodin also had a Power of Attorney for Kuchenbecker and his wife, as they were regularly at the home in Cabo Mexico. Exhibit 64.
- 125. As part of every purchase and sales agreement had Sjodin provide the following disclaimer, which was signed by both Kuchenbecker and the person purchasing the lot. It stated:

The BUYERS acknowledge that they have been made aware that the property being purchased hereunder, along with the adjoining property, was once mined on the surface and underground for gypsum. The SELLER is unaware of the exact date that the underground mining ceased but believes it was sometime in the 1950's. The surface of the property was reclaimed to meet the requirements of the State of South Dakota after the surface mining operation was completed. The SELLER is not making any warranty, express or implied, concerning any sub-surface conditions that may exist on the property being purchased by the BUYER herein. It will be the BUYER's responsibility to remediate any subsurface conditions that exist on the property including, but not limited to, fissures or cavities that may be as a result of these mining operation. The BUYER has accepted the subsurface of the property in an "as is" condition, without any warranty by the SELLER.

Exhibit 65; Exhibit 48, pp. 115-17.

- 126. Sjodin not only represented Kuchenbecker as the exclusive listing agent for the sale of the lots to homebuilders, but he also represented every homebuilder in Hideaway Hills on the sale of the houses built to the people who would be the first home purchasers. Exhibit 66, pp. 8-9; Exhibit 67, p. 9; Exhibit 68, pp. 7-10.
- 127. When asked why Kuchenbecker's disclosure was included with the sale from Kuchenbecker to the homebuilder, but not from the homebuilder to the homebuyer, Sjodin's response was that no disclosure was required because disclosures are required only for existing houses and not for new construction. Exhibit 69, pp. 27-28
- 128. Sjodin stated that he and the homebuilders made the decision not to pass on the disclosure to the homebuyers because he did not feel the fact that prior mining on the

- property was a material defect (which would have required disclosure as part of his duties as a licensed realtor) on the lots he was selling. Exhibit 69, pp. 40-41.
- 129. Sjodin stated that if Kuchenbecker had communicated to him that he wanted the disclosure passed on to all future buyers, Sjodin would have walked away from the subdivision. *Id*.
- 130. In 2008, a sinkhole developed in the boulevard of 6942 East Daisy Drive, at a house owned by Thomas and Susanne Kelly (hereinafter "the Kelly house"). Exhibit 70.
- 131. The Northdale Sanitary District hired AET and Robert Temme to make recommendations as to how to fix the hole. *Id.*
- 132. AET recommended that a company out of Colorado, Hayward Baker, pour engineered grout into the hole to seal it. *Id*.
- 133. Hayward Baker's initial estimate to seal the hole included enough grout to stabilize the Kelly property, which was also affected by the sink hole. Exhibit 71.
- 134. Instead, the Sanitary District chose to pour enough grout to address the sinking street and had their attorney send the Kelly's a letter informing them that they should contact their own engineer to repair their subsurface. Exhibit 72 & 73.
- 135. The Kellys, thereafter, had another sinkhole develop in their backyard, which exposed a bumper of a car. Exhibit 86, p. 20. They called the Northdale Sanitary District about the sinkhole, but do not recall anyone coming out to fix it. *Id.* at 20-21.
- 136. In 2009 a portion of Blue Bell Lane started severely settling. Exhibit 74.
- 137. AET and Temme were again called to evaluate the settling. *Id.*
- 138. AET recommended that a portion of Blue Bell be excavated, the material underneath the road be removed, dried, and then compacted to aid in the settling. *Id.*

- 139. Brandon Powles, who was contracted to perform water and other services for the Sanitary District, undertook the work himself, and excavated and repaved the road.

 Exhibit 75.
- 140. Temme stated it was apparent, based on his analyses of the various areas AET had been called in to assess, that Kuchenbecker had not done compaction testing on the roads, because if he had done so, he would have known that the roads needed a lot of compaction to avoid settlement. Exhibit 76, p. 61.
- 141. The sinkhole that started the present lawsuit occurred on April 27, 2020. Petition for Class Action.
- 142. It formed on East Daisy Drive, in generally the same location of every other sinkhole that had formed previously. *See* Exhibit 53; Exhibit 70, p. 6527; Exhibit 55, pp. 26-27.
- 143. Meade County emergency management made contact with a local group of spelunkers and the group offered to come out and examine the sinkhole. Exhibit 18, p. 6-8.
- 144. Upon entering the hole, they determined what that County already knew; that there was an underground mine located below East Daisy Drive. *See* Exhibit 46.
- 145. The spelunkers worked with a cartographer to map the assessable portions of the mine and released a map. Exhibit 77.
- 146. Following the 2020 sinkhole several lawsuits were filed; more than half of which were filed by John Fitzgerald against various people and entities, but specifically Meade County, Kuchenbecker, Sjodin, and various developers. *See* 5:21-cv-5056; 46CIV20-177; 46CIV22-33. The Beardsley Firm filed a lawsuit against the State as well as the various

- utility companies, but dismissed its suit against the State, as it became local counsel for the present class action lawsuit. 46CIV21-308. All Fitzgerald lawsuits have been dismissed. *See* 46CIV22-33.
- 147. The present class action lawsuit was brought in November of 2020 and originally sought damages various causes of action including: inverse condemnation, breach of express covenant, breach of duty of subsurface/subjacent support, and unjust enrichment/constructive trust. See Petition for Class Action.
- 148. However, since the case was filed, all counts except Count One, for inverse condemnation were dismissed, leaving one claim by the class members. *See*Memorandum Decision on Defendants' Motion to Dismiss, May 14, 2021.
- 149. The class was certified, despite Defendants' objections, on September 16, 2022 and litigation proceeded.
- 150. As part of their case, Plaintiffs proceeded with several bore holing operations in 2021, 2023, and 2024. Exhibits 78, 79, 80 & 87.
- Bore hole locations were decided based on permission to drill. Exhibit 17, pp. 36-37.
- on when the holes were drilled. For instance, the 2021 bore holes were to allow Lyman and his firm Western EGI to get an idea of the subsurface conditions. The 2021 bore holes involved SPT testing to determine the compaction of the ground. The holes were also utilized to determine the type of soil found within. Exhibit 78.
- 153. In 2023 and 2024 additional holes were bored that included SPT testing and moisture testing, as well as AASTO rating for the soil. Exhibit 79 & 87.

- 154. Still more holes were bored without any of the referenced testing with the stated purpose of finding voids. Exhibit 17, p. 62; Exhibit 79, pp. 9654-78.
- Data from some of the holes bored by the Plaintiffs was not provided to Defendants. See, e.g. compare Exhibits 78 & 79 with Exhibit 81.
- 156. Plaintiffs' experts identified essentially three areas of concern. First, the underground mine; second, the area which was strip mined; and third, the status of water and sewer lines on the property. Exhibit 82, pp. 87-89, 94.
- 157. As to the underground mine, Plaintiffs' experts believe that it extends further to the south and east than originally believed and state that, in addition to the evacuation zone, 6862 East Daisy and 6853, 6879, and 6891 West Elmwood Drive are at risk of collapsing into the underground mine. Exhibit 19, p 126.
- 158. Lyman also did not believe the underground mine was expanding to the west. *Id.* p. 131.
- 159. Plaintiffs' experts, however, stated that even without the Cement Plant mining the property, the underground mine would have collapsed. *Id.* p. 171.
- 160. As to the area which was surface mined, Plaintiffs' experts allege that because the ground was reclaimed to pastureland without attempting to clean up all gypsum fragments, the conditions underneath the ground can lead the dissolution of "pulverized gypsum" leading to rapid settling which it referred to as collapse conditions. *Id.* p. 100.
- 161. Collapse for the purpose of the surface mining area, however, was defined by Lyman as settlement and heaving of .9 inches to one inch annually, depending on the moisture in the soil. *Id.* p. 185.

- 162. Lyman further admitted that he did not know where on the property the Cement Plant mined versus where other prior mining operations mined. *Id.* at 168.
- 163. As to Plaintiffs' experts' opinions regarding the utility lines, Lyman's main concerns arose with regard to the water and sewer lines still operational around the area of the underground mine. *Id.* pp. 192-93.
- 164. He was specifically concerned about a force main that had not yet been rerouted by the Northdale Sanitary District. *Id.*
- 165. However, he also had concerns about sagging and potential leaking of utilities in Hideaway Hills. *Id*.

Dated this 28th day of June, 2024.

MAY, ADAM, GERDES & THOMPSON LLP

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Attorneys for the Defendants

CERTIFICATE OF SERVICE

Terra M. Larson of May, Adam, Gerdes & Thompson LLP hereby certifies that on the 28th day of June, 2024, she electronically served a true and correct copy of the foregoing in the above-captioned action via the Odyssey File & Serve system, which will notify and serve all counsel of record.

/s/ Terra M. Larson
TERRA M. LARSON

STATE OF SOUTH DAKOTA)	IN CIRCUIT COURT	
COUNTY OF MEADE) SS.	FOURTH JUDICIAL CIRCUIT	
COUNTY OF MEADE	J	FOURTH JUDICIAL CIRCUIT	
ANDREW MORSE and JOHN a	nd)		
EMILY CLARKE, for themselves	100 Metal		
and on behalf of all similarly	·		
situated individuals,	5		
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Plaintiffs,	Ś		
v.	Ś	46CIV 20-000295	
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STATE OF SOUTH DAKOTA)		
And/or the SOUTH DAKOTA)		
COMMISSION OF SCHOOL AN	ND)		
PUBLIC LANDS, as successor of)		
the SOUTH DAKOTA CEMENT)		
PLANT COMMISSION and the)		
SOUTH DAKOTA CEMENT)		
PLANT TRUST,)		
)		
Defendants.)		

PLAINTIFFS' RESPONSE IN OPPOSITION TO DEFENDANTS' STATEMENT OF <u>UNDISPUTED MATERIAL FACTS</u>

The State's Material Facts are easily rebutted because they are either irrelevant to this litigation, incorrect, or omit material information. Plaintiffs' dispute the State's Material Facts in paragraph numbers corresponding to the State's filing in support of its Motion for Summary Judgment:¹

Statement 1: The State's ownership of Hideaway Hills. The State correctly provides the legal description of the property it owned from 1985 to 1994 (hereinafter "Hideaway Hills").

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¹ Plaintiffs submit additional evidentiary materials in response to the State's Motion for Summary Judgment. Those additional evidentiary materials are filed in Plaintiffs' Rebuttal Exhibits to Defendant's Exhibits to Motion for Summary Judgment, commencing with Plaintiffs' Exhibit 25 and continuing from that point. These evidentiary materials are identified as "Plaintiffs' Rebuttal Exhibits." Those Exhibits filed with Plaintiffs' Exhibits to Plaintiffs' Motion for Partial Summary Judgment are identified as "Plaintiffs' Exh." and are numbered 1-24.

However, the State omits the material fact that it severed the surface estate from the mineral estate in the Warranty Deed to Raymond C. Fuss and Carol M. Fuss, and has not transferred ownership in the subsurface estate since that time.² It is the State's continuing ownership of the subsurface that gives rise to the State's continuing legal obligations to the owners of the surface estate at Hideaway Hills.³

Statements 2-15: History of Mining at Hideaway Hills. The history of the mining at Hideaway Hills is interesting, but entirely irrelevant to the present litigation. This case is about how the State disturbed the subsurface of the mine (in all areas of Hideaway Hills)⁴, and removed the natural support needed for the surface of the land to be stable going forward. The State's historical account does not raise facts regarding the State's behavior. Additionally, several of the statements are either incorrect or fanciful. The State's Exhibit "5," for example, is a "Personal Item" article submitted to the *Deadwood Daily Pioneer-Times*, July 31, 1930, which tells a "tall tale" of a 172 feet, deep hole in Black Hawk that yielded ice in the summer and heating in the winter. This article is not a public record. The article is not admissible evidence because it reports, and is by its own nature, hearsay. There is no public record or other evidence the Hideaway Hills

² Defendant's Exhibits to Motion for Summary Judgment ("State Exh."), Exhibit 1; Plaintiffs' Exhibits to Plaintiffs' Motion for Partial Summary Judgment ("Plaintiffs' Exh.), Exhibit 4, ¶¶ 6-8.

³ S.D. Const. Art. VIII, § 19 SDCL § 43-16-2; Ulrick v. Dakota Loan & Trust Co., 2 S.D. 285 (S.D. 1891), affirmed and rehearing denied, 3 S.D. 44 (S.D. 1892), overruled on other grounds, Long v. Collins, 12 S.D. 621, 82 N.W. 95 (S.D. 1900). See also, Salmon v. Peterson, 311 N.W.2d 205, 207 (S.D. 1981) (neighbor ordered to restore lateral support to claimant's lot, regardless of fact the neighbor did not cause condition of retaining wall).

⁴ Plaintiffs' Rebuttal Exhibit 25, HH_0000769. A conversation between State's employee Fred Carl, Environmentalist, and Mike Cepak, Program Chief, Exploration & Mining Program, during the transition from Permit 424 to mining license 89-383 (this was for the Pengra Amendment), dated 8/1/89, recounts Fred Carl telling Cepak that the "permit boundary" within the "red" line (shown in yellow on Plaintiffs' map at Plaintiffs' Exh. 1) represents all the area affected by the mining operations "as they at one time or another affected all the land within the 'red' line shown on the map. This includes areas now reclaimed, trails, road, stockpiles, equipment storage areas, buffer areas, pits, etc." *Id.*

mine was "leased" for refrigeration, as suggested by the State. The substance of the State's "tall tale" is also physically improbable, if not impossible, to occur.⁵

In the deposition of Plaintiffs' geotechnical expert, Brandt Lyman ("Lyman"), the State proffered the "tall tale" article, Exhibit "5," not to show the mine at Hideaway Hills was used for refrigeration, but as support for the argument that ground water existed in the subsurface of Hideaway Hills prior to the State's mining activities, in 1930. Lyman, however, testified he had seen no documentation anyone encountered ground water in the mine area in the 1930s. The State's mine file for Permit 424/License 89-383, notes no ground water was found in the Hideaway Hills testing prior to the State's mining activities. The State was required to report to the Department of Water and Natural Resources if ground water was encountered during its mining activities, and no such report was ever made.

Finally, the State's repeated assertions that it cannot be ascertained where or when the Hideaway Hills area was mined can be debunked by the myriad of historical photographs of Hideaway Hills taken by the U.S. Army Air Corps. and the US Geological Service over the years. The State's attempts to convey other mining activity could have caused the deteriorating conditions at Hideaway Hills is debunked by Plaintiff's geotechnical expert, Brandt D. Lyman, P.E. When asked whether the Hideaway Hills property owners would have been in the same situation if the State never mined the property, Lyman responded he did not believe so ...

⁵ If there were a 172 foot deep hole in Hideaway Hills, it would be a problem for the State, because they clearly never identified it or reclaimed it.

⁶ Plaintiffs' Rebuttal Exhibit 26, Deposition of Brandt Lyman ("Lyman Depo"), 144:5-25, 145:1-22.

⁷ Plaintiffs' Rebuttal Exhibit 27, HH_0000671, 0000673.

⁸ Plaintiffs' Exh. 6A at HH 0000636.

⁹ Aerial photographs of Hideaway Hills show mining activity clearly apparent in 1938 and 1952 photographs taken by the U.S. Army Air Corps., and the US Geological Service. Plaintiffs' Rebuttal Exhibit 28 at HH_00002735, HH 0002102.

Because the State's mining was extensive in the areas that they mined and then the State was the one that did the reclamation of the property before it was sold. So the issues that we're seeing on that subdivision, certainly as they relate to the poor fill material that was placed for the strip mine operation, is a direct result of the State's reclamation efforts.¹⁰

Statements 16-51: The State's mining and reclamation activities in Hideaway Hills.

The State's next 35 statements generally track the State's mining activity over the years, but either omit material information, or deflect facts and evidence that are both material and negative for the State. These omitted or deflecting facts center, first, on the State's activities with regard to the old underground mine and, second, the State's reclamation obligations and activities.

Statements 23, 24, 29, 36, 43, 47-49 and 50: The State's description of its reclamation activities. The State talks about "reclamation" of its mine in these numbered statements, and about contouring, grading, and seeding in others. However, the State fails to mention key facts.

The laws and regulations governing reclamation in South Dakota were modified commencing in 1982. The State agreed to adhere to these more rigorous standards for reclamation when it amended Permit 424, made the conversion to mining license 89-383, and expanded the Hideaway Hills mine to include the Pengra property. The new reclamation standards required to State to reclaim the land at Hideaway Hills under the Rangeland provisions of SDAR § 74:29:07:20(4). The new standards did not include "return to pasture land" as an acceptable reclamation.

As to statement number 50 of the State, that there is no evidence the Cement Plant (State) mined or reclaimed outside of the permit area, the State utterly ignores the contents of the State's

12 Id., HH-0000637, ¶ 4,

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¹⁰ Plaintiffs' Rebuttal Exhibit 26, Lyman Depo., 174:2-175:1.

¹¹ See SDCL §§ 45-6B-1-45-6B-106; SDAR §§ 74:29:01:01-74:29:07:28 ("Minimum Reclamation Standards"). Plaintiffs' Exh. 6A, at HH-0000634-0000639 and compare HH 0000636 with HH 0000637.

own files during the process of application for amendment, and Plaintiffs' geotechnical testing

results, which stand completely unrebutted, showing extensive fill in areas outside the permit

boundary.

A "Completeness Check" prepared by the State for an amendment to the mine license

application (which was required to expand the mining area to the Pengra property), contained the

elements established by the new regulations at SDAR Sections 74:29:03:02 and 74:29:03:03. The

"Completeness Check," was obviously written by the State mine employee to assure all elements

of the new regulations were fulfilled. The document reveals the frustration of the writer when it

notes that under the application for the previous permit 424, there was "No approved permit

boundary," and "doesn't mention establishing a permit boundary," and "What map—don't see past

reclamation map."¹³ The bottom line is that definitive mining and reclamation boundaries under

Permit 424 were not clearly established prior to the State's effort to transition Permit 424 to

License 89-383 and adding the Pengra property to its mine boundaries.¹⁴ Extensive mining

operations occurred before the boundary was drawn in order to convert to License 89-383.

Compelling evidence that the State disturbed areas of Hideaway Hills, outside the permit

boundary established during licensing is found in the geotechnical testing records. 15 Bore hole

sampling results reveal the presence of deep "fill," (silty soil and pulverized gypsum) consistent

with that used by the State during its purported reclamation, outside of the License 89-383 permit

area.16

13 Plaintiffs' Rebuttal Exhibit 29, HH 0000736-738,

¹⁴ This likely explains the finding of post-mining "fill" in areas exceeding the license boundaries during geotechnical testing. Plaintiffs' Rebuttal Exhibit 26, Lyman Depo 174:9-175:20. See also, Plaintiffs' Rebuttal Exhibit 25, HH 0000769.

¹⁵ Plaintiffs' Exh. 15, Final Report Hideaway Hills Subdivision of Brandt D. Lyman, PE, HH 0009521-0009754

¹⁶ Id., HH 0009637, 0009638, 0009649, 0009651.

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Statements 24, 30 and 32: The State misstates facts concerning reclamation of the old

underground mine. There is no evidence, and the State's cited Exhibits 24 and 26 do not support,

that the State agreed to return the east half of the mined property (the area of the underground

mine) to pasture "[A]s a courtesy to the South Dakota Game, Fish and Parks." Additionally,

contrary to State statement number 30, there is no evidence that the State's blasting around the old

underground mine "closed" any part of the mine. No expert has testified in deposition to observing

any "closing" of that underground mine. 17

Rather, there is evidence that the State wanted to investigate and remove the outcrops of

gypsum (south of test holes #19 and #20) that the State's engineering firm, Hoskins-Western-

Sonderegger, Inc., reported "wouldn't require a lot of additional work to obtain." Lyle Dennis

("Dennis") testified he set off six (6) charges around test holes #19 and #20 to determine the

amount of gypsum there. 19 The roof of an "open pit" caved in when Dennis set off the charges. 20

Fred Carl ("Carl"), the State employee in charge of surface mining permits, testified that, in this

area around the old mine, there were outcrops of exposed gypsum that were removed by the State

and sent to the Cement Plant.²¹

These State activities at the old underground mine triggered SDAR, §74:29:07:17, of the

Minimum Reclamation Standards, which required the State to "seal" the underground mine

openings and workings. "Sealing" the underground mine, would have required the State to drill

¹⁷ Plaintiffs' Exh. 16, Final Expert Report of Douglas Beahm, PE, PG, at Opinion, ¶¶ 11 and 12. ¹⁸ Plaintiffs' Exh. 2, Report of Hoskins-Western-Sonderegger, Inc. at page 5, GCC 0007.

²⁰ Id. 27:1-7.

²¹ Plaintiffs' Rebuttal Exhibit 31, Deposition of Fred Carl ("Carl Depo"), 7:21-25, 8:17-11: 9, 23:12-25:19, Exhibit 1 to Carl Depo.

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¹⁹ Plaintiffs' Rebuttal Exhibit 30, Deposition of Lyle Dennis ("Dennis Depo), 4:2-25, 5:7-6:22, 14:24-16:13, and Dennis Depo Exhibit 1.

and grout 15 acres of the Hideaway Hills mine site.²² There is no evidence the State attempted to

seal the underground mine. The water that has accumulated in the underground mine since the

State's mining activities clearly evidences the old underground mine was never "closed" by the

State.23

Statements 52-60: The appraisal and sale of the Hideaway Hills property did not

disclose to third parties the State's failure to properly reclaim Hideaway Hills. The State's

statements of fact avoid two important facts. First, according to Vincent Street ("Street"), the

Cement Plant employee in charge of selling the Hideaway Hills mine property, the State never

disclosed to the appraiser that an underground mine existed on the property it was selling, or that

a 40-foot pit mine had been reclaimed by pouring fill dirt into it.²⁴ Second, there is no evidence

the State disclosed to potential purchasers of the property, including Raymond Fuss ("Fuss"), that

there was an underground mine on the property and a 40-foot deep "fill hill." The State had

perfect knowledge of the conditions of the subsurface of Hideaway Hills, and it disclosed it to no

one.

Statements 61-140: The State is unsuccessful in its attempts to show folks had notice

of the underground mine, or someone else (primarily Kuchenbecker) caused the hazardous

conditions in Hideaway Hills. Despite presenting a smattering of anecdotal recounts of events,

rumors and testimony showing the speculation of past owners, developers and officials of

Meade County about conditions of Hideaway Hills, there are three factual points that override

everything. First, there is no evidence that any warnings or restrictions on use of the land were

²² Plaintiffs' Exh. 16, Beahm Final Report, at "Cost of Remediation," Underground Mine.

²³ Plaintiff's Exh. 15, Lyman Final Report at "III. Condition of Abandoned Underground Mine," HH_0009530-

²⁴ Plaintiffs' Exh. 10, Deposition of Vincent Street, 4:7-10, 7:23-8:6, 9:17-10:7.

²⁵ Plaintiffs' Exh. 12, Invitation for Bids Stensaas Property, Rapid City Journal, May 5, 1994, STATE 012007.

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ever placed in the official title records of the property at Hideaway Hills. While the State proffers

purported written notices that there may be an underground mine in Hideaway Hills shared

between Fuss and developer Byron "Keith" Kuchenbecker ("Kuchenbecker"), or between

Kuchenbecker and builders, there is no evidence these notices were filed in official property

records or ever given to purchasers of homes.²⁶ In fact, by letter to Kuchenbecker dated August 19,

2002, the South Dakota Department of Environment and Natural resources approved the plans and

specifications for Kuchenbecker's Hideaway Hills subdivision development, including the

underground installation of water, sewer and other utilities, without mentioning or commenting on

the State's prior mining activity or the possibility there existed an underground mine on the site

that had never been reclaimed.²⁷

Second, this Court can take judicial notice by reviewing the docket of this case that the

State took the deposition of an owner of every single residential property in Hideaway Hills, all

members of the class- over 130 depositions. Yet the State's Statement of Material Facts contains

no testimony from a single class member that he or she had any knowledge of the underground

mine, or sink holes, or subsidence, at the time the class member purchased the home in

Hideaway Hills. Each class member testified they had no knowledge of any underground mine,

sink holes, or subsidence when the class member bought the Hideaway Hills home.²⁸

Finally, without drilling and geotechnical testing, it is impossible to discern whether a

subsidence of land where gypsum is present is caused by natural processes or human activity.

Without testing, even the State's expert, John Tinucci, Ph.D. ("Tinucci"), could not opine whether

²⁶ State's Exh. 69, pp. 27-28 (Deposition of Ronald Sjodin).

²⁷ Plaintiff's Rebuttal Exhibit 32, DENR Letter to Kuchenbecker, STATE 008925-008931.

²⁸ Exhibit 33. This exhibit contains a summary of citations to depositions of those class members who were asked about their knowledge of mining prior to purchasing their Hideaway Hills home. The excerpts of the depositions are

attached to the summary.

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voids discovered at Hideaway Hills test hole #19 (next to the underground mine) were underground mine voids or naturally occurring karstic voids.²⁹ Witness, Robert Temme, P.E. ("Temme"), testified in his deposition that a naturally occurring massive amount of gypsum can, over time,

dissolve and create a void or "karst."30

The bottom line is that a sink hole in a street or depression by a home cannot be determined

to be part of an underground mine, or any other mine, without geotechnical and other testing.

Everything else is rumor and speculation—which is what the State proffers to the Court coming

from Fuss, Kuchenbecker or Meade County. Only Plaintiffs experts performed the testing and

investigation necessary to support their observations and opinions.

Statements 86-116: The State's evidence does not show Kuchenbecker caused the

conditions of the subsurface of Hideaway Hills. The State's statements 86 through 116 appear

to have been included in an effort to blame the condition of the land at Hideaway Hills on the

developer, Kuchenbecker. However, an examination of Kuchenbecker's testimony, and the

testimony of other witnesses, demonstrates that none of the work Kuchenbecker performed while

developing Hideaway Hills could have caused the severe undermining of the subsurface's ability

to support the surface that is causing subsidence and collapses that are happening in

Hideaway Hills now.

First, Kuchenbecker was not responsible for the composition or nature of the fill he used

in developing the land. Kuchenbecker did not bring any fill into Hideaway Hills, and there is no

evidence to the contrary.³¹ Rather, Kuchenbecker just scraped off topsoil and put it in piles at the

²⁹ Plaintiffs' Rebuttal Exhibit 34, Deposition of John Tinucci, Ph.D. (Tinucci Depo), 31:1-20, 39:5-13, 40:15-41:2, and Tinucci Depo. Exhibit 7.

30 Plaintiffs' Rebuttal Exhibit 35, Deposition of Robert Temme, P.D. (Temme Depo), 12:23-13:11.

³¹ Plaintiffs' Rebuttal Exhibit 36, Deposition of Byron Keith Kuchenbecker ("Kuchenbecker Depo") 49:5-15, 107:15-22.

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south and north ends of the development.³² Kuchenbecker removed about 3-6 inches of topsoil

before grading the area.³³ Grading below the topsoil made only minor changes to the existing

grade of the property.34

Contrastingly, geological testing demonstrates that the State's strip mining disturbed and

filled at least 10 feet and up to 30 feet of the subsurface soil, and replaced it with silty fill and

pulverized gypsum. Plaintiffs' expert estimates the State left 21,250,205 cubic feet or 787,045

cubic yards of fill—silty soil and pulverized gypsum, in the subsurface when it abandoned its mine,

and its inadequate and incomplete reclamation activities at Hideaway Hills.³⁵ In short, the

unrebutted geotechnical testing results demonstrate that the State's failure to properly reclaim its

mining sites, not anything else, removed the subsurface soil's ability to support the surface at

Hideaway Hills.36

Moreover, given that he had no geologic or engineering education, there is no fault to be

found in the steps Kuchenbecker took with regard to the conditions of land at Hideaway Hills

during his development process. Kuchenbecker has no engineering degree, he received a degree

from South Dakota State University in "Range Management." Kuchenbecker's primary

experience was in water management, 38 and prefabricated homes, 39

In his deposition, Kuchenbecker reported that Fuss informed him that there had been

mining at Hideaway Hills, that the "gyp was removed pretty much" and that the State had sold it

32 Id., 49:18-20, 107:4-22.

33 Id., 159:15-25,

³⁴ *Id.*, 161:4-10.

35 Plaintiff's Exh. 15, Lyman Final Report, HH-0009545.

³⁶ Id.

³⁷ Plaintiff's Rebuttal Exhibit 32, Kuchenbecker Depo, 7:3-6.

38 Id., 7:19-8:7.

39 Id., 10:10-12:15.

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to Fuss as "land that was reclaimed." Concerned about the mining information, Kuchenbecker

went to the State Cement Plant for more information. 40 Kuchenbecker testified that the State only

told him that the land had been reclaimed and, as to the old mine (which Kuchenbecker terms the

"other mining") "they said that they thought those were pushed in, reclaimed, but there was no

paperwork."41

Thereafter, Kuchenbecker decided to dig holes and see if he could expose leftover gypsum

or evidence of underground mining, but he discovered neither.⁴² Kuchenbecker does not recall

"blasting" the area of Hideaway Hills. 43 When Kuchenbecker's scraper went into a big hole, he

went to Doug Sperlich ("Sperlich"), the engineer, who recommended filling the hole and

compacting it.44 Kuchenbecker then hired an engineering company to drill holes in order to test

for voids, but no additional voids were found.⁴⁵ Temme testified in deposition that gypsum

formations are found in several places in the Black Hawk, Sheridan Lake Road and Canyon Lake

areas.46 Sink holes occurred in Deadwood.47 Consequently, the presence of one sink hole in

Hideaway Hills would not have put Kuchenbecker on notice of anything particularly unusual at

Hideaway Hills during the subdivision's development, given the State's statement that the mine

areas were properly reclaimed.

In Kuchenbecker's presentation to build a Hideaway Hills manufactured housing

community to the Meade County Planning Commission, dated July 13, 2000, Kuchenbecker noted

⁴⁰ *Id.*, 31:6-15.

41 Id., 32:1-11.

42 Id., 32:14-33:22.

43 Id., 55:16-59:2

44 Id., 68:15-69:23, 75:3-25.

45 Id 82:10-83:10

46 Plaintiff's Rebuttal Exhibit 35, Temme Depo, 19:1-20:2, 20:7-21:7, 30:7-23.

⁴⁷Id., at 30:14-31:8.

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that the State had mined gypsum from the site in the 1980s, noting, based upon his conversation

with the State representative that "One can still identify spoil pile areas by abnormal terrain and

exposed gypsum fragments." Kuchenbecker noted in that report an underground mine existed in

the NE corner of the property in the early 1900s, and that "field boring" might be required to

identify cavities that might pose a safety hazard.⁴⁸

Kuchenbecker did dig up soil looking for voids. After he hit one void with his scraper,

Kuchenbecker also hired American Engineering ("AET") to drill 10 holes 20 feet deep. No voids

were discovered.⁴⁹ Kuchenbecker's plans for manufactured home at the Hideaway Hills

subdivision were approved without comments about mining or voids by South Dakota's DENR.⁵⁰

There is no evidence Kuchenbecker "intentionally" ignored information he received about an

underground mine in Hideaway Hills.

Statements 141-149: These paragraphs are a "statement of the case" not statements

of fact. Plaintiffs need not respond to the State's recount of the progress of this litigation.

Statements 150-165: The State misconstrues the geotechnical evidence and testimony

but cannot rebut the facts. In statements 150-165, the State attempts to explain the Plaintiffs'

experts motivations for the drilling and bore sampling, the reasons for it, and what may be gleaned

from Lyman's deposition testimony. None of these efforts to "explain" are facts that rebut the

evidence presented to the Court in this case, as the State's experts conducted no geotechnical

testing of the soil at Hideaway Hills and the State's lead expert, John Tinucci, never even visited

⁴⁸ Plaintiff's Rebuttal Exhibit 37, Hideaway Hills Manufactured Housing Community Supporting Documentation STATE 008447-008515, at 008451,

49 Plaintiffs' Rebuttal Exhibit 36, Kuckenbecker Depo, 82:1-83:22,

50 Plaintiff's Rebuttal Exhibit 32, at STATE 008925-008931,

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Hideaway Hills to observe conditions there.⁵¹ The extraordinary subsidence and collapse events in Hideaway Hills far exceed customary sink holes that sometimes form in areas where natural gypsum formations occur.⁵² Talking about the Plaintiff's admissible and credible evidence, deflecting, cutting and pasting deposition excerpts taken out of context, or trying to explain evidence away, does *not* raise a fact issue in rebuttal to Plaintiffs' material facts presented in Plaintiffs' Motion for Partial Summary Judgment, that are supported with actual, uncontroverted evidence. ⁵³

None of the State's attempts to "explain" can undermine the simple facts: (1) The State's mining activities completely disturbed the subsurface soils of Hideaway Hills and allowed water to enter the underground mine; (2) the State's failure to properly reclaim the subsurface resulted in the removal of the subsurface's natural ability to support the surface; (3) the State's failure to properly reclaim the subsurface has resulted in surface subsidence, surface collapse, and the

⁵¹ In statement 155, the State alleges that certain data arising from bore hole sampling was not provided to the State. This assertion is completely false. The State cites to State Exhs. 78 and 79, which are bore hole test results produced to the State, and then, State Exh. 81, which is a demonstrative map of all bore hole testing in Hideaway Hills, including the testing of "HWS." "HWS" is Hoskins-Western-Sondereger, Inc., the engineering firm that the State hired to help the State decide where to mine in the Hideaway Hills area. This entire report was produced by GCC (the entity that purchased the Cement Plant) to both the State and Plaintiffs. The bore hole logs in the HWS shown on State Exh. 81 are attached to the HWS report. Plaintiffs object to the State's counsel's attempt to cast Plaintiffs in a poor light in this manner.

⁵² See Plaintiffs' Exh. 14, Affidavit of Brandt D. Lyman, P.E. ("Lyman Affidavit"), at ¶ 11, Compare Hideaway Hills Pictures, Bates No. HH_0001834, 1786,1804, 1802, 1803, 1811, 1801, 1809, 1817, and 1824, with Northdale Pictures, Bates Nos. HH_0017777, 0017791, 0017802, 0017819 attached to Lyman Affidavit as Exhibits C.

⁵³ For example, in statement 161, the State pointed out that Lyman defined "collapse" as "settlement and heaving on .9 inches to one inch annually. However, Lyman never used the word "heaving" in his report on his test results. The State also misrepresents Lyman's testimony in statement 162. Lyman was not commenting on where there may have been prior mining in Hideaway Hills, rather, he was explaining that the model which calculated the percentage of gypsum in the fill found in Hideaway Hills was based upon an estimate because the State's records did not accurately record the amount of fill that testing showed was present in the subdivision. Plaintiffs' Rebuttal Exhibit 26, Lyman Depo., 68:3-24. Further, the State misses the point that a soil sample may collapse 1 inch---but if you have 30 feet of soil and it is all collapsing 1 inch you have a large and very dangerous situation.

destruction of utilities;⁵⁴ and (4) the conditions at Hideaway Hills are so dangerous, no person should live there.

Respectfully submitted this 26th day of July, 2024.

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⁵⁴ Plaintiff's Exh. 15, Lyman Final Report at HH 0009537-9538, and HH 0009549-955.

CERTIFICATE OF SERVICE

I hereby certify that on this 26th day of July, 2024, the foregoing Plaintiffs' Response in Opposition to Defendants' Statement of Undisputed Material Facts was served upon the following counsel of record via the South Dakota efiling system:

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STATE OF SOUTH DAKOTA)	IN CIRCUIT COURT	
) SS.		
COUNTY OF MEADE)	FOURTH JUDICIAL CIRCUIT	
ANDREW MORSE and JOHN at	nd)		
EMILY CLARKE, for themselves	s)		
and on behalf of all similarly)		
situated individuals,			
)		
Plaintiffs,)		
V.)	46CIV 20-000295	
)		
STATE OF SOUTH DAKOTA)		
And/or the SOUTH DAKOTA			
COMMISSION OF SCHOOL AND			
PUBLIC LANDS, as successor of			
the SOUTH DAKOTA CEMENT			
PLANT COMMISSION and the			
SOUTH DAKOTA CEMENT)		
PLANT TRUST,			
)		
Defendants.)		

STATEMENT OF MATERIAL FACTS ON PLAINTIFFS' MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE QUESTION OF INVERSE CONDEMNATION

The following material facts cannot be disputed by Defendants. This is the Statement of Material Facts on Plaintiffs' Motion for Partial Summary Judgment on the Question of Inverse Condemnation.

A. The Set Up of Hazardous Conditions At Hideaway Hills—Planting Time Bombs.

1. In or around January 1985, the State Cement Plant ("State") retained Hoskins-Western-Soderegger, Inc. ("HWS") to perform a gypsum resource study on property owned by

Ed Stensaas. The "Stensaas Property" was comprised of "approximately 45 acres" and "included the Northwest Quarter of Section 8, Township 2 North, Range 7 East." ¹

- 2. The purpose of the HWS study was to determine the amount of gypsum available to the State for cement production by the State's Cement Plant.²
- 3. To determine the "overburden depths, thickness and preliminary lateral extent of the gypsum" HWS conducted initial borings in sixteen (16) locations on the Stensaas Property.³ Later, an additional compressed air drilling occurred in nineteen (19) locations to acquire additional information.⁴
- 4. HWS determined the largest deposit of gypsum was located in the southern one-third (1/3) of the study area on the Stensaas Property.⁵
- 5. However, HWS also found a "substantial amount of gypsum" had been removed from the study area by "past mining operations." HWS found that outcroppings of gypsum remained in the northern portion of the studied property, just south of test holes #19 and #20. These gypsum outcroppings would not require, according to HWS, "a lot of additional work" to obtain.⁶

¹ Exhibit 2, GCC 0001-0087, at GCC 0015, and Figure 1 at GCC 0022.

² Id. at GCC 0015.

³ Id. at GCC 0016, and Appendix "A" at GCC 0083.

⁴ Id.

⁵ Id. at GCC 0018.

⁶ Id. at GCC 0019.

- 6. HWS observed "there are a number of sinks along the east side of the old gypsum mining cut. The sinks are probably formed when the old underground mining ceilings collapse."8
- 7. HWS provided the State with a map containing a drawing of where "old mining excavations" had occurred in the past.⁹ The State was aware in 1985, therefore, that an underground mine existed on the Stensaas property, and that the ceiling of the mine was subject to collapse.
- 8. HWS estimated recoverable gypsum on the Stensaas property to be 215,000 tons, with volume of 110,314 cubic yards.¹⁰
- 9. The State purchased the property that was the subject of the HWS study from Edwin Stensaas and Johanna Stensaas on July 8, 1985.¹¹ The legal description of the property purchased was "Tract 1 of Lot 1, and Lot 3 of the Northeast quarter, less Lot AR and Lot H-1 and Lot 3 of the Northeast quarter, less Lot H-1, all in Section Eight in Township Two North of Range Seven East of the Black Hills Meridian, Meade County, South Dakota." ("Hideaway Hills").¹²
- 10. On or around June 1, 1985 the State made an application for "Large Scale" Mining/Milling Permit to the Department of Water and Natural Resources, Exploration and Mining

⁷ *Id*.

⁸ Id. at GCC 0017.

⁹ Id. at GCC 0083.

¹⁰ Id. at GCC 0020.

¹¹ Exhibit 3, Warranty Deed dated July 8, 1985, STATE 002357. *See also*, Exhibit 4, Defendants' Responses to Plaintiffs' Request for Admission ("Defendants' Admissions"), #1 and #2. The Stensaas reserved a life estate around their residence and out buildings for the life of Johanna Stensaas. *Id.*, Defendants' Admissions #3.

¹² Exhibit 1, the yellow boundary line, depicts the area owned by the State as a result of the purchase of the land from Stensaas, and the limits of the license to mine, License 89-383.

Program.¹³ A map showing the anticipated impacted area was included in the application.¹⁴ The application was approved (Permit 424 was issued) and, in 1989, the application was amended to include land just south of the original permit description owned by Victor and Gladys Pengra.¹⁵ The State mined the Pengra's property under a lease agreement.¹⁶ Permit 424 was converted to a mining license, License #89-383, when SDCL § 45-6 was enacted on July 1, 1990.¹⁷

- 11. Most of the State's gypsum mining at Hideaway Hills took place in areas A, B, C, and D, shown on the hand drawn map contained in the State's files for Permit 424/ License 89-383. HWS' report recounts that gypsum deposits in this area were 1 to 22.5 feet thick in this area, but were covered by overburden of depths up to almost 30 feet. The depth of the gypsum required the State to dig a large, deep pit in the southern area of Hideaway Hills in order to remove the large gypsum deposits in the A, B, C, and D areas.
- 12. The State's mining activities intersected the areas identified by HWS at test holds #19 and #20 and the old underground mine. Lyle Dennis ("Dennis") worked at the Hideaway Hills

¹³ Exhibit 5, Application for Mining/Milling Permit dated on or around June 1, 1985, STATE 002546-2547.

¹⁴ Exhibit 6A, Excerpts from Mine File Permit 424/License 89-383 ("Mine File"), HH_0000654-663 at HH_000663. Boundaries for the impacted permit area were not required to be defined until SDCL § 45-6 was enacted. Documents contained in the Mine File show that mining activities impacted the entire area owned by the State. *Id.*, Mine File HH_0000764-765, 0000769.

¹⁵ *Id.*, Mine File HH 0000634-640, 0000788.

¹⁶ Id., Mine File HH 0000617, 0000622, 0000630, 0000752-753.

¹⁷ Id.

¹⁸ Exhibit 7, Deposition of Fred Carl ("Carl Dep"), 30:23-31:12. Carl Dep Exhibit 1.

¹⁹ Exhibit 2, GCC 0006.

gypsum mine from 1985 to 1992.²⁰ Dennis testified that he set off six (6) charges in an area in the vicinity of the old mine (around test holes #19 and #20) to determine if there was gypsum in the area that the State Cement Plan could utilize.²¹

- 13. Fred Carl ("Carl") was employed with the South Dakota Cement Plan from 1984 to 1993.²²

 Carl testified that the outcroppings of gypsum that were visible in the old mine area around test holes #19 and #20 were removed by the State's and went into processing at the State Cement Plant.²³
- 14. Hideaway Hills was mined until January 1992.²⁴ The last mining report shows the State removed 21,445 tons of gypsum during the final year, had mined 16.5 acres since the mine's inception and had reclaimed 32 acres.²⁵ In the aggregate, the State reported it took 135,227.86 tons of gypsum from the land at Hideaway Hills.²⁶
- 15. The State's mining activities in the blasting areas around test holes #19 and #20 included the removal of gypsum that was visible from the surface, and the sending of that gypsum for processing to the Cement Plant.²⁷²⁸ In the opinion of the State's geotechnical expert,

²⁰ Exhibit 8, Deposition of Lyle Dennis ("Dennis Dep") at p. 4:2-13.

²¹ Id., Dennis Dep 6:4-22, 14:24-16:13. Dennis Dep Exhibit 1.

²² Exhibit 7, Carl Dep 5:4-5.

²³ Exhibit 7, Carl Dep 10:1-11:9.

²⁴ Exhibit 6B, Inspection/Annual Reports from Mine File at HH 0000629.

 $^{^{25}}$ *Id.*

 $^{^{26}}$ Id., Exhibit 6B, Mine File HH_0000626, 0000628, 0000629, 0000699, 0000700, 0000701, 0000708, 0000710, 0000713, 0000718, 0000722, 0000725.

²⁷ Exhibit 7, Carl Dep 8:19-11:11; 19:4-25:12; 34-35. Carl Dep Exhibit 1, 4, 5.

²⁸ Exhibit 8, Dennis Dep, 4:2-7:5; 14:23-16:13. Dennis Exhibit 1. Exhibit 6A, Mine File HH_0000673, 0000715, 0000719 (cross-hatched areas denote reclaimed areas).

John Tinucci, Ph.D. ("Tinucci"), the gypsum removed from the old underground mine area was required to be *sent for processing* to the Cement Plant for the State to be deemed to have intersected the old underground mine while engaged in "mining."²⁹

- 16. As a condition for the grant of the mining permit and license for Hideaway Hills, the South Dakota Department of Water and Natural Resources required that the reclamation would not be "deemed complete" until the "reclaimed area is capable of withstanding proper stocking rates for two consecutive years prior to bond release."³⁰
- 17. The State did not fulfill the reclamation conditions of the permit or ARSD § 74:29:07:20(4) at Hideaway Hills. Further, the State did not secure or seal the underground mine that it "intersected" as required by ARSD § 74:29:07:17. Rather, the State merely utilized overburden on the site to fill areas, and contoured and graded the site, then seeded the site.³¹
- 18. The State sprayed water from the sewer lagoons adjacent to the Hideaway Hills property on the fill dirt it used for grading and contouring to keep dust down.³²

B. The State Off-Loads the Hazard, Leaves the Ordinances, And Takes Its Profits.

19. Approximately a year after mining concluded in Hideaway Hills, and without any investigation whether the property was sufficiently strong or stable to withstand "proper

²⁹ Exhibit 9, Deposition of John Tinucci, Ph.D. ("Tinucci Dep"), 9:1-13, 83:1-86:5.

³⁰ Exhibit 6A, Mine File HH_0000637, 0000646, 0000647, 0000782, 0000783. "Proper stocking rates" means, for a given area, the land must support the number of animals that will improve or maintain the range land. ARSD § 74:29:01:01(80). This was, and currently remains, a regulatory requirement for completion of reclamations to range land. ARSD § 74:29:07:20(4). SDCL § 45-6-66 rendered the State exempt from fee and surety requirements. The surety was therefore released in March of 1993, only a year after mining and reclamation was completed, not because reclamation was finished, but because the law no longer required a security of the State. *Id.*, Mine File HH_0000621-623, 0000632.

³¹ Exhibit 7, Carl Dep, 37:22-39:9.

³² Exhibit 10, Deposition of Vincent Street ("Street Dep"), 6:21-7:9. Exhibit 6A, Mine File HH 0000624, 0000625.

stocking rates," the State's purchasing manager, Vincent Street ("Street"), arranged to have an appraisal done of the Hideaway Hills property.³³

- 20. The State did not disclose to the appraisers that there was an underground mine on the Hideaway Hills property, that a 40 foot deep pit had been filled during reclamation, or that the reclamation of the properly was not completed in accordance with the mining permit and South Dakota regulations.³⁴ The Market Value Appraisal recounts that Street informed the appraisers only that "the land has not been actively worked *in the last few years*, and has been reclaimed to environmental standards" (emphasis added).
- 21. The Market Value Appraisal determined the "Highest and Best Use" for the Hideaway Hills property is as "residential ranchette," and set the recommended sale price at \$81,800.37
- 22. The Hideaway Hills property was advertised for sale by the State without notice of the presence of an old underground mine on the property and without specifics as to reclamation of either the underground mine or the large pit mine area in the southern part of the property.³⁸

³³ Exhibit 10, Street Dep, 4:7-10; 7:25-8:6.

³⁴ *Id.*, Street Dep, 9:17-10:7.

³⁵ Exhibit 11, Market Value Appraisal, STATE 002399-002435, at STATE 002405.

³⁶ *Id.* at STATE 002414.

³⁷ *Id.* at STATE 002421.

³⁸ Exhibit 4, Defendants' Admissions #15. Exhibit 12, Invitation for Bids Stensaas Property, Rapid City Journal, May 5, 1994, STATE 012007.

- 23. The State sold the Hideaway Hills property to Raymond C. Fuss et ux Carol M. Fuss for \$92,154 on June 17, 1994.³⁹ No restriction was placed in the Warranty Deed regarding future use or development of the property.⁴⁰
- 24. The Warranty Deed on the Hideaway Hills property transferred from the State on June 17, 1994, reserved to the State all the mineral rights in the property (i.e., the "Mineral Estate"). 41
- 25. The State continues to own the Mineral Estate in the Hideaway Hills property to date.⁴²
- 26. The surface estate of Hideaway Hills formerly owned by the State is currently divided into plats upon which the owners, Plaintiffs and the class members' houses reside.⁴³
- 27. The State of South Dakota sold the Cement Plan and, by constitutional amendment, deposited the proceeds of the sale into the Cement Plant Trust. SD. Const. Art. 13, § 20. In 2023, The Cement Plan Trust held \$334,445,059.16 in cash and investments. 44

C. Time Is Up, It Is Not Safe To Live In Hideaway Hills.

25. The existence of the underground mine was revealed to Plaintiffs and the class members in a fashion both dramatic and brutal. On April 27, 2020, part of the road and sidewalk on

³⁹ Exhibit 4, Defendants' Admissions #5.

⁴⁰ Exhibit 4, Defendants' Admissions #15. Exhibit 13, Warranty Deed dated June 17, 1994, STATE 002359.

⁴¹ Exhibit 4, Defendants' Admissions #6. Exhibit 13. Exhibit 9, Tinucci Dep 14:7-11.

⁴² Exhibit 4, Defendants' Admissions #7, #8.

⁴³ Exhibit 1. The yellow line on the map includes the homes to which the motion for partial summary judgment is made. Homes outside the area of the yellow line are entitled to lateral support from the State, and subject to a negligence standard.

⁴⁴ https://sdtreasurer.gov/wp-content/uploads/2023/12/ANNUAL-REPORT-2023-Office-of-the-State-Treasurer.pdf.

East Daisy Drive collapsed, taking into the void water, gas and electrical lines with the concrete and asphalt as they fell.⁴⁵

- 26. Investigators that entered the mine void discovered numerous areas of instability where the mine roof was collapsing.⁴⁶
- 27. Investigation above ground reveals subsidence of streets in the entirety of Hideaway Hills as depicted in Exhibit 1.⁴⁷
- 28. Examination of homes reveal evidence of movement and collapse. 48
- 29. Plaintiffs' geotechnical engineering expert is Brandt D. Lyman ("Lyman"), Western-EGI. Lyman's Final Report ("Final Report"). 49 After substantial investigation and geotechnical testing of subsurface soils, the Final Report finds the following as to Hideaway Hills:

In its current condition significant and extensive geotechnical hazards exist throughout the subsurface of Hideaway Hills Subdivision. These include direct danger of roof collapse of the abandoned underground mine workings, gypsum karst conditions being created in the remaining ore body adjacent to the mine workings, unsuitable fill material consisting of weak, fine-grained soils and gypsum being used for reclamation of surface mining, lack of a specification of backfill materials and compaction requirements to support unrestricted development, and the interaction of natural and artificial aquifers creating softening and weakening of the deleterious fill material and mine workings. These conditions pose an unacceptable risk to homeowners and the public that occupy and use the subdivision. (emphasis added).⁵⁰

⁴⁵ Exhibit 14, Affidavit of Brandt D. Lyman, P.E. ("Lyman Affidavit") Exhibits C and D.

 $^{^{46}}$ Id, Lyman Affidavit, Exhibit D HH_0002418, 0002461, 0004836.

⁴⁷ *Id.*, Lyman Affidavit, Exhibit C HH 0001786, 0001801, 0001809. Exhibit 1.

⁴⁸ Exhibit 14, Lyman Affidavit, Exhibit D HH 0004706, 0008159.

⁴⁹ Exhibit 15, Final Report Hideaway Hills Subdivision of Brandt D. Lyman, PE ("Final Report"), HH_0009521-9754. Exhibit 14, Lyman Affidavit.

⁵⁰ Exhibit 15, Final Report #5 HH 0009525.

30. Douglas Beahm, PE, PG, ("Beahm") President of BRS, Inc. was retained to consult with Western-EGI and provide peer review of Western-EGI's investigation and determinations. ⁵¹ In his Findings and Opinion, Beahm states:

Given the extent of mine-related impacts to the Hideaway Hills subdivision which are overlain by damage to critical infrastructure, the subdivision should be vacated to protect the human health and well-being of the residents.⁵²

- 31. There are three different hazards in the subsurface of Hideaway Hills that render the area too dangerous for Plaintiffs and class members to continue to live there. First, the condition of the underground mine, which is, and has been, open to the atmosphere has introduced water into the subsurface.⁵³ This water dissolves the gypsum in the mine's subsurface causing formation of caves and the roof of the mine to be increasingly unstable. The Final Report states, "it is our opinions that abandoned mine workings pose a danger to properties well beyond their current extents." The Final Report, in particular, reveals that properties located at 6862 E. Daisy Drive, and 6853, 6879 and 6891 W. Elmwood Drive are at increased risk of damages from collapsing mine workings.⁵⁵
- 32. Second, sampling of soil found in drilled holes revealed that large areas of the subdivision, and underneath most of the homes is a subsurface filled with material that consists of pulverized soft sedimentary rock and gypsum. Testing of samples throughout the

⁵¹ Exhibit 16, Findings and Opinions Relating to Hideaway Hills Subdivision of Douglas Beahm, PE, PG ("Beahm Findings and Opinions"), HH 0012553-12571.

⁵² *Id.*, Beahm Findings and Opinions #15 HH 0012555.

⁵³ Exhibit 15, Final Report HH 0009530-9532.

⁵⁴ Id., Final Report HH 009532.

⁵⁵ Id.

Hideaway Hills subdivision revealed the pulverized fill dirt used by the State in reclamation contains from approximately 2% to 85% pulverized gypsum (an average of over 50%), which dissolves with the introduction of water.⁵⁶ This dynamic de-stabilizes home foundations, structures, and streets.⁵⁷ Moreover, tests conducted by Western-EGI showed that the fill used to reclaim homes is capable of sudden collapse once the soil is saturated with water.⁵⁸ Substantial damages to persons and property could happen at any time.

33. Finally, the inability of the fill dirt used in reclamation to support any kind of structure has resulted in serious damage to the sewer pipes in Hideaway Hills. The sewer force main is threatened by the continued subsidence of the collapse on East Daisy Drive and may spew sewage into the mine collapse area.⁵⁹ Water lines in the neighborhood are similarly impacted and leaking water. It is uncertain water pressure in Hideaway Hills is sufficient to fight a home fire.⁶⁰

D. There Can Be No Dispute- The Conditions at Hideaway Hills Are Hazardous

34. Western-EGI is the *only geotechnical engineering firm*, and testifying expert Brandt Lyman is the only geophysical engineer, that has taken an ample statistical sampling of soils from the subsurface of Hideaway Hills, commencing in 2020 and continuing through 2024, and tested the samples to determine the nature of the subsurface

⁵⁶ Exhibit 15, Final Report. Exhibit 14, Lyman Affidavit.

⁵⁷ Exhibit 15, Final Report HH 0009532-9549.

⁵⁸ *Id.*, Final Report HH 0009548.

⁵⁹ Exhibit 17, Deposition of Patrick Ealy ("Ealy Dep"), 6:6-9:6; 15:10-16:6.

⁶⁰ Exhibit 15, Final Report HH 0009549-9550.

soils, whether the subsurface is likely to collapse or subside, and whether it is capable of supporting utilities. This litigation has been going on for four (4) years and the State has conducted no geotechnical studies of the area:

- a. The State's expert, John Tinucci, Ph.D., testified he never visited the site of Hideaway Hills, and he conducted no soil sampling or testing to determine what percentage of pulverized gypsum exists in the subsurface soil of Hideaway Hills or what percentage of gypsum in soils would cause subsidence or collapse.⁶¹ Tinucci testified that he was not sure whether Lyman's testing methodology was an accurate way to predict the percentage of gypsum in a sample, but admitted he had not looked at the scientific literature for that methodology.⁶²
- b. The State's expert, Robert Barnes ("Barnes"), studied in the area of mining engineering and has an MBA. ⁶³ Barnes testified that the State Cement Plant required gypsum because it is a retardant in the cement curing process. ⁶⁴ Barnes testified he visited Hideaway Hills, observed the blocked off area, and saw a "bunch of places" where there was settlement of sidewalks and roads. Barnes did not do any sampling or testing of soils in Hideaway Hills, however. ⁶⁵ Barnes testified, based upon review of photos of the mine, that the State reclaimed its strip-mined areas and the area of the underground mine with overburden and soil the State had

⁶¹ Exhibit 9, Tinucci Dep 73:23-25, 91:16-23.

⁶² Exhibit 9, Tinucci Dep 91:24-92:14.

⁶³ Exhibit 18, Deposition of Robert Barnes ("Barnes Dep") 5:1-6:16.

⁶⁴ *Id.*, Barnes Dep 8:19-9:11,

⁶⁵ Id., 12-25.

mined out.⁶⁶ The State utilized non-engineered fill in its reclamation, so subsidence of the soils in Hideaway Hill was a "national [sic-meaning "natural"] occurrence."⁶⁷ Barnes testified that the presence of pulverized gypsum in the State's backfill would decrease the stability of the backfill.⁶⁸

- c. Jesse Broce, Ph.D. ("Broce") Impact7G, geologist (paleontology), testified to his observations of sinkholes and subsidence in Hideaway Hills, ⁶⁹ and his study of electric resistivity data in Hideaway Hills. ⁷⁰ However, Impact7G never performed any drilling for subsurface soil samples, ⁷¹ and Broce agrees that the kind of testing he studied personally may be interpreted differently by different experts. Broce agrees the testing results he studied does not indicate what percentage of pulverized gypsum might be contained in the subsurface soils of Hideaway Hills. ⁷²
- d. Civil Engineer, Leah Berg, ("Berg") Affordably Creative Engineering Services,⁷³ testified that no geotechnical testing of bore hole samples to determine subsurface soil conditions was conducted by her team, outside the area of the initial proposed force main sewer line proposed reroute line, in the years 2020 and 2021.⁷⁴ Berg

⁶⁶ Id., 33:3-23.

⁶⁷ Id., 38:3-24.

⁶⁸ Id., 39:2-7.

⁶⁹ Exhibit 19, Deposition of Jesse Broce, Impact7G ("Broce Dep"), 17:3-21,

⁷⁰ *Id.*, 18:6-20.

⁷¹ *Id.*, 30:9-11.

⁷² *Id.*, 69:16-70:14, 70:22-25.

⁷³ Exhibit 20, Deposition of Leah Berg, ACES ("Berg Dep") 3:18-21.

⁷⁴ Exhibit 20, Berg Dep, 39:1-18.

agreed that conditions may have changed in the subsurface soils since that time along the route she tested.⁷⁵

e. Karen Brady ("Brady") appeared for a Section 30(b)(6) deposition on behalf of RESPEC. RESPEC as Vice President of Infrastructure (the utility sector) of RESPEC. RESPEC was retained by Northdale Sanitary District in 2022 to evaluate the condition of water and sewer utilities at Hideaway Hills and, later, discussed a potential "reroute project." RESPEC recommended drilling be conducted to determine the stability of the subsurface at Hideaway Hills. RESPEC made three alternative recommendations for rerouting the water and sewer utilities, but could not determine the best route until soil was evaluated. Before RESPEC could proceed with work, however, a dispute arose with Northdale Sanitary District's representative concerning the scope of work. Ultimately, RESPEC walked away from its business dealings with Northdale Sanitary District. Consequently, RESPEC never conducted drilling in Hideaway Hills to evaluate the ability of the subsurface to support water or sewer utilities.

⁷⁵ *Id.*, 48:7-15.

⁷⁶ Exhibit 21, Deposition of Karen Brady ("Brady Dep"), 4:23-5:18.

⁷⁷ Id., 5:22-25.

⁷⁸ *Id.*, 6:22-7:5, Brady Dep Exhibit 1.

⁷⁹ *Id.*, 8:16-19.

⁸⁰ Id., 9:10-15.

⁸¹ Id., 19:8-21.

⁸² Id., 22:7-23.

f. Fact witness, Mohamed Ahmed Khalil Aboushanab, Ph.D., ("Dr. Khalil") (Geosciences), works as an assistant geoscientist at the Panhandle Research Extension Center, Scottsbluff, Nebraska. 83 Dr. Khalil has worked for over 20 years with electric resistivity in his environmental and engineering work.⁸⁴ Dr. Khalil was retained by the Geophysical Engineering Department, Montana Tech University to conduct an electric resistivity study of the subsidence at Hideaway Hills. 85 Dr. Khalil was also retained by the Fitzgerald law firm. 86 Dr. Khalil conducted no drilling or testing of subsurface soils at Hideaway Hills. 87 Dr. Khalil tried to classify the areas of Hideaway Hills by geotechnical risk, based upon electric resistivity testing, and concluded all the testing zones "are risky."88 Dr. Khalil testified that the geotechnical map he developed was not intended to give information about houses or building.⁸⁹ When confronted with the fact that his report was winding up in appraisals of homes for sale in Hideaway Hills, Dr. Khalil testified he was not aware of that, and denied his map was intended for that purpose.⁹⁰ Khalil testified that the hazards in Hideaway Hills "are progressive."

⁸³ Exhibit 22, Deposition of Mohamed Ahmed Khalil Aboushanab, Ph.D. ("Khalil Dep"), 11:2-12:8.

⁸⁴ Khalil Dep, 13:15-14:9.

⁸⁵ *Id.* 16:2-18-7.

⁸⁶ *Id.*, 20:22-21:18.

⁸⁷ *Id.*, 19:15-25, 22:3, 23:10-14.

⁸⁸ Id., Khalil Dep 22:25-24:7. Khalil Dep Exhibit 3

⁸⁹ *Id.*, 24:21-24.

⁹⁰ *Id.*, 26:6-27:3.

Dr. Khalil testified: "So if you have a stable gypsum this year, 2024—so this gypsum, after two years or three years will not be stable." 91

E. The Plaintiffs' and Class Members Homes are Worthless.

- 34. When the State left its mining operations in Hideaway Hills, with the underground mine open to air and water and the fill dirt in the subsurface inundated with pulverized gypsum that dissolved with every rain and snow, the State doomed the surface estate to subsidence and collapse.⁹²
- 35. After a thorough market investigation, Real Estate Expert Craig Steinley ("Steinley") produced his Report.⁹³ Steinley determined:

SDCL § 10-6-104, formerly cited as SD ST§ 10-6-1.3, defines the terms 'fair market value' and 'full and true value' as the price in money that property will bring in a competitive and open market under all conditions requisite to a fair sale between a willing buyer and a willing seller, each acting prudently and with full knowledge of the relevant facts, and assuming the price is not affected by any undue stimulus.

A willing buyer acting prudently and with full knowledge of the relevant facts would not purchase a residential property in Hideaway Hills Subdivision at any price and would instead choose a reasonable substitute in a competitive alternate location.⁹⁴

36. The Plaintiffs' and Class Member's homes are worthless. 95

⁹¹ Id., 27:23-28:2.

⁹² Id., Exhibit 15, Final Report #1-#5 HH_0009524-9525

⁹³ Exhibit 23, Expert Report of Craig Steinley, MAI, SRA, AI-GRS, AI-RRS ("Steinley Expert Report"). HH 0010182-10191, 14011-14035, 14167-14192.

⁹⁴ Id., Steinley Expert Report HH 0010189 (emphasis added).

⁹⁵ Exhibit 15, Final Report #5 HH_0009525. Exhibit 16, Beahm Findings and Opinions #15 HH_0012555. Exhibit 23, Steinley Expert Report HH_0010189. Steinley testified that the few homes sales that had occurred in Hideaway Hills since April 27, 2020, were based in party of the electric conductivity map included in Dr. Khalil's report that appeared (erroneously) to show the homes were in a geotechnically "safe zone." Exhibit 24, Deposition

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of Craig Steinley ("Steinley Dep"), 41:18-42:3. Steinley's employees interviewed folks that purchased homes in Hideaway Hills. Steinley Dep, 48:3-6. Interviews showed that purchasers were not aware of information that would have given them full knowledge of the conditions of the area where the homes were located. *Id*, 51:1-24. No home sales transactions have occurred in Hideaway Hills with a buyer fully informed about the conditions of the subsurface and utility infrastructure. *Id*, 53:1-14.

CERTIFICATE OF SERVICE

I hereby certify that on this 27th day of June, 2024, the foregoing Statement of Material Facts was served upon the following counsel of record via the South Dakota efiling system:

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STATE OF SOUTH DAKOTA	7	IN CIRCUIT COURT
COUNTY OF MEADE)ss)	FOURTH JUDICIAL CIRCUIT
ANDREW MORSE and JOHN AND EMILY CLARKE, for themselves and on behalf of all similarly situated individuals, Plaintiffs,		46CIV20-000295
STATE OF SOUTH DAKOTA, and/or THE SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successors of the SOUTH DAKOTA CEMENT PLANT COMMISSION, and the SOUTH DAKOTA CEMENT PLANT TRUST,		DEFENDANTS' RESPONSE TO PLAINTIFFS' STATEMENT OF UNDISPUTED MATERIAL FACTS
Defendants		

COME NOW Defendants by and through their attorneys of record and hereby submit the following Response to Plaintiffs' Statement of Undisputed Material Facts.

A. The Set Up of Hazardous Conditions At Hideaway Hills-Planting Time Bombs.

RESPONSE: While this is a heading for which no answer is required, Defendants dispute the same.

1. In or around January 1985, the State Cement Plant ("State") retained Hoskins-Western-Soderegger, Inc. ("HWS") to perform a gypsum resource study on property owned by Ed Stensaas. The "Stensaas Property" was comprised of "approximately 45 acres" and "included the Northwest Quarter of Section 8, Township 2 North, Range 7 East."

RESPONSE: Undisputed.

2. The purpose of the HWS study was to determine the amount of gypsum available to the State for cement production by the State's Cement Plant.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks for itself.

3. To determine the "overburden depths, thickness and preliminary lateral extent of the gypsum" HWS conducted initial borings in sixteen (16) locations on the Stensaas Property. Later, an additional compressed air drilling occurred in nineteen (19) locations to acquire additional information.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks for itself.

4. HWS determined the largest deposit of gypsum was located in the southern one-third (1/3) of the study area on the Stensaas Property.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks for itself.

5. However, HWS also found a "substantial amount of gypsum" had been removed from the study area by "past mining operations." HWS found that outcroppings of gypsum remained in the northern portion of the studied property, just south of test holes #19 and #20. These gypsum outcroppings would not require, according to HWS, "a lot of additional work" to obtain.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks for itself.

6. HWS observed "there are a number of sinks along the east side of the old gypsum mining cut. The sinks are probably formed when the old underground mining ceilings collapse.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks

for itself.

7. HWS provided the State with a map containing a drawing of where "old mining excavations" had occurred in the past. The State was aware in 1985, therefore, that an underground mine existed on the Stensaas property, and that the ceiling of the mine was subject to collapse.

RESPONSE: As to the portions of this paragraph that cites Plaintiffs' Summary

Judgment Exhibit 2, undisputed as it speaks for itself. As to the proposition regarding

"the State's" awareness that an underground mine existed on the Stensaas property, and
the ceiling was subject to collapse, disputed in that Plaintiffs' Exhibit 2 speaks for itself.

8. HWS estimated recoverable gypsum on the Stensaas property to be 215,000 tons, with volume of 110,314 cubic yards.

RESPONSE: Undisputed to the extent, Plaintiffs' Summary Judgment Exhibit 2 speaks for itself.

9. The State purchased the property that was the subject of the HWS study from Edwin Stensaas and Johanna Stensaas on July 8, 1985. The legal description of the property purchased was "Tract 1 of Lot 1, and Lot 3 of the Northeast quarter, less Lot AR and Lot H-1 and Lot 3 of the Northeast quarter, less Lot H-1, all in Section Eight in Township Two North of Range Seven East of the Black Hills Meridian, Meade County, South Dakota." ("Hideaway Hills).

RESPONSE: Undisputed, except the parenthetical ("Hideaway Hills)" [sic] was not part of the legal description, as the plat for Hideaway Hills was not approved by Meade County until 2004, after Larry Fuss and Keith Kuchenbecker sought to develop the property, and after telling Meade County about the prior mining (including underground mining). See Defendants' Exhibits 46 & 115.

10. On or around June 1, 1985 the State made an application for "Large Scale" Mining/Milling Permit to the Department of Water and Natural Resources, Exploration and Mining Program. A map showing the anticipated impacted area was included in the application. The application was approved (Permit 424 was issued) and, in 1989, the application was amended to include land just south of the original permit description owned by Victor and Gladys Pengra. The State mined the Pengra's property under a lease agreement. Permit 424 was converted to a mining license, License #89-383, when SDCL § 45-6 was enacted on July 1, 1990.

RESPONSE: Undisputed. See Defendants' Statement of Undisputed Material Facts ("Defendants' SUMF") ¶¶ 17-51 and accompanying exhibits.

11. Most of the State's gypsum mining at Hideaway Hills took place in areas A, B, C, and D, shown on the hand drawn map contained in the State's files for Permit 424/License 89-383. HWS' report recounts that gypsum deposits in this area were 1 to 22.5 feet thick in this area, but were covered by overburden of depths up to almost 30 feet. The depth of the gypsum required the State to dig a large, deep pit in the southern area of Hideaway Hills in order to remove the large gypsum deposits in the A, B, C, and D areas.

RESPONSE: Disputed. All of the State's gypsum mining took place within the areas with dashed lines shown on the map as A, B, C, and D (depicted on the side of the map, in the southern portion of the property) and in areas with less than 30 feet of overburden. See Plaintiffs' Summary Judgment Exhibit 2 (discussing overburden depths of 0 to 24 feet plus and gypsum thickness from 1.5 feet to 22.5 feet)¹; Defendants' Exhibits 23 (maximum

¹ Defendants' Exhibits 28 and 31 provide a clearer view of the map and test holes.

expected overburden of 24 feet), 24 (overburden variable to 20 feet), and 34 (10 to 15 feet of overburden). The "almost 30 feet of overburden" referenced above (Plaintiffs' Exhibit 2, p. GCC 0006) was located at test hole 6, which was never mined by the Cement Plant. See Defendants' Exhibits 23, 24, 27, 28, 31, 33, 34, 36-39.

12. The State's mining activities intersected the areas identified by HWS at test holds #19 and#20 and the old underground mine. Lyle Dennis ("Dennis") worked at the Hideaway Hills gypsum mine from 1985 to 1992. Dennis testified that he set off six (6) charges in an area in the vicinity of the old mine (around test holes #19 and #20) to determine if there was gypsum in the area that the State Cement Plan could utilize.

RESPONSE: Disputed to the extent that it states "the State's mining activities intersected areas identified by HWD at test holds [sic] #19 and #20 and the old underground mine." It is undisputed that Mr. Dennis blasted in the vicinity of test holes #19 and #20. However, it was determined that there was insufficient gypsum to take, so they graded and contoured the area and left it. Defendants' Exhibit 30, pp. 22-23; Exhibit 29, pp. 15, 27.

13. Fred Carl ("Carl") was employed with the South Dakota Cement Plan from 1984 to 1993.

Carl testified that the outcroppings of gypsum that were visible in the old mine area around test holes #19 and #20 were removed by the State's and went into processing at the State Cement Plant.

RESPONSE: Mr. Carl was the Cement Plant's environmentalist and did not witness any blasting or mining in the northern portion of the property. Affidavit of Fred Carl ¶¶ 2-6. Mr. Carl, agreed during deposition questioning that it appeared ("it appears so") the Cement Plant took gypsum from outcroppings in the area it blasted (near test holes 19

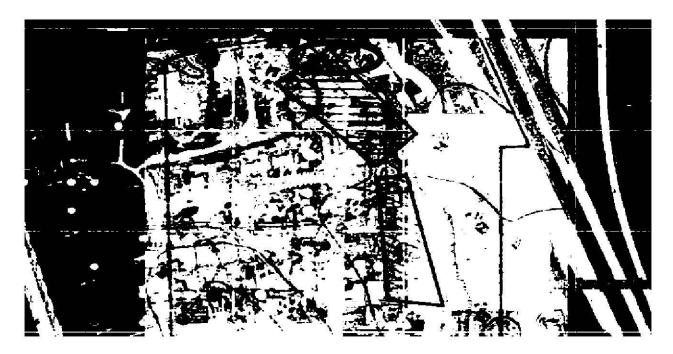
and 20). See Id.; Plaintiffs' Summary Judgment Exhibit 2. Carl possesses no personal knowledge of whether gypsum was removed from the area and yields specifically to those who were there during the blasting; i.e. Mr. Dennis who stated the gypsum was not taken from that area. Id.

14. Hideaway Hills was mined until January 1992. The last mining report shows the State removed 21,445 tons of gypsum during the final year, had mined 16.5 acres since the mine's inception and had reclaimed 32 acres. In the aggregate, the State reported it took 135,227.86 tons of gypsum from the land at Hideaway Hills.

RESPONSE: Disputed. Mining was completed in 1991. See Defendants' SUMF, ¶¶ 42-49; specifically, ¶¶ 43, 45 and Defendants' Exhibits 37-39. Id.

15. The State's mining activities in the blasting areas around test holes #19 and #20 included the removal of gypsum that was visible from the surface, and the sending of that gypsum for processing to the Cement Plant. In the opinion of the State's geotechnical expert, John Tinucci, Ph.D. ("Tinucci"), the gypsum removed from the old underground mine area was required to be *sent for processing* to the Cement Plant for the State to be deemed to have intersected the old underground mine while engaged in "mining."

RESPONSE: Disputed. See response to paragraphs 12 and 13; the gypsum near holes 19 and 20 was not taken to the Cement Plant for processing. Next, test holes 19 and 20 are not where the underground mine which resulted in the present lawsuit is located, and outside of the area evacuated by Meade County after the April 27, 2020 sinkhole (hereinafter "evacuation zone"). A reprint of a portion of Defendants' Exhibit 32 is set forth below, with test holes 19 and 20 circled in blue.



Compare Defendants' Exhibits 28 & 31 (1987 and 1988 annual mining reports with map depicting 1985 bore hole locations) with 32 (above) and SUMF ¶¶ 28-35 and Plaintiffs' Summary Judgment Exhibit 2; see also Defendants' Exhibit 84 (depicting map created by Plaintiffs with test holes 19 and 20 and home overlays). Finally, Plaintiffs' expert Lyman specifically opined that the unground mine at issue in this case is not extending to the north or the west of the current evacuation zone. Defendants' Exhibit 17, pp. 126, 131.

Therefore, even if gypsum was taken (which is disputed) from the area of holes 19 and 20, the disputed mining in that area did not "intersect" the underground mine at issue in this case.

16. As a condition for the grant of the mining permit and license for Hideaway Hills, the South Dakota Department of Water and Natural Resources required that the reclamation would not be "deemed complete" until the "reclaimed area is capable of withstanding proper stocking rates for two consecutive years prior to bond release.

RESPONSE: Undisputed to the extent that Plaintiffs' Summary Judgment Exhibit 6A

speaks for itself. Again, however, the property was not named Hideaway Hills until it was platted in 2002. Defendants' Exhibit 50 & Exhibit 115.

17. The State did not fulfill the reclamation conditions of the permit or ARSD §

74:29:07:20(4) at Hideaway Hills. Further, the State did not secure or seal the
underground mine that it "intersected" as required by ARSD § 74:29:07: 17. Rather,
the State merely utilized overburden on the site to fill areas, and contoured and
graded the site, then seeded the site.

RESPONSE: Disputed. First, as explained in Defendants' response to Paragraph 15, test holes 19 and 20 are not where the underground mine is located, and outside of the evacuation zone. Plaintiffs' expert Lyman specifically opined that the unground mine at issue in this case is not extending to the north or the west of the evacuation zone.

Defendants' Exhibit 17, pp. 126, 131. Therefore, the Cement Plant intersected no underground mine when it placed the area near test holes 19 and 20.

Next, the Cement Plant did withstand proper stocking rates for two consecutive years, as set forth in Defendants' Exhibits 37-39 (noting that hay was cut in 1991 from the site), and as evidenced by DENR's release of the site from liability under the mining license in 1993. Defendants' Exhibit 40. It was also used by Fuss until 2002 for pastureland and horse grazing. Defendants' Exhibit 44, pp. 14-16.

Furthermore, Plaintiffs are citing to the current administrative rules, and have not provided the Court with the administrative rules with which the Cement Plant was required to comply when it amended its application in 1989 and became subject to the administrative rules. It is Plaintiffs' burden to demonstrate what those rules were and show the Cement Plant did not comply.

Notwithstanding the above, South Dakota's Administrative Rules for mining were enacted in 1988. Pursuant to the annual mining report from 1987, the Cement Plant blasted the area of test holes 19 and 20 prior to July 24, 1987. See Defendants' Exhibit 28. While Plaintiffs inappropriately cite to the current version of ARSD § 74:29:07:17 (as opposed to the 1989 version of the administrative rules, which would be the applicable version), no administrative rules were in place at the time the Cement Plant blasted the northern portion of the property. As such, Plaintiffs' accusations pertaining to the rules for "intersecting" underground mines are inapplicable.

18. The State sprayed water from the sewer lagoons adjacent to the Hideaway Hills property on the fill dirt it used for grading and contouring to keep dust down.

RESPONSE: Disputed. The Northdale Sanitary District sewage lagoons were located over what is now Hideaway Hills 2. *Compare* Defendants' Exhibit 59 with Defendants' Exhibit 84. The lagoon had overflowed onto the Cement Plant's property. Plaintiffs' Summary Judgment Exhibit 10, pp. 6-8. Instead of suing the Sanitary District for trespassing, the Cement Plant permitted the Sanitary District to irrigate the newly-seeded property to facilitate vegetation growth. *See id*.

- B. The State Off-Loads the Hazard. Leaves the Ordinances. And Takes Its Profits.

 RESPONSE: While this is a heading for which no answer is required, Defendants dispute the same.
 - 19. Approximately a year after mining concluded in Hideaway Hills, and without any investigation whether the property was sufficiently strong or stable to withstand "proper stocking rates," the State's purchasing manager, Vincent Street ("Street"), arranged to have an appraisal done of the Hideaway Hills property.

RESPONSE: Disputed. The property had been hayed and grazed prior to an appraisal being performed, and the DENR released the Cement Plant from its permit obligations. Defendants' Defendants' Exhibits 37-39 (noting that hay was cut in 1991 from the site), and as evidenced by DENR's release of the site from liability under the mining license in 1993. Defendants' Exhibit 40; see also Defendants' Exhibit 44, pp. 14-16. Thereafter, Larry Fuss leased the property for horse grazing, until 2002. Defendants' Exhibit 44, pp. 14-16. Furthermore, the Exhibit to which Plaintiffs site does not support the proposition set forth in this paragraph. It is undisputed, however, that Mr. Street requested an appraisal, which was required by state law. See Plaintiff's Summary Judgment Exhibit 10, pp. 7-8.

20. The State did not disclose to the appraisers that there was an underground mine on the Hideaway Hills property, that a 40 foot deep pit had been filled during reclamation, or that the reclamation of the properly was not completed in accordance with the mining permit and South Dakota regulations. The Market Value Appraisal recounts that Street informed the appraisers only that "the land has not been actively worked *in the last few years*, and has been reclaimed to environmental standards" (emphasis added).

RESPONSE: Disputed. The Exhibits to which Plaintiffs cite do not support the allegations set forth in this paragraph. Mr. Street did not know if the appraisers possessed knowledge of underground workings. Plaintiff's Exhibit 10. There is no reference about 40-foot pits in Plaintiffs' line of questioning to Street. *Id.* The appraisal itself, set forth in both Plaintiffs' Exhibit 11 and Defendants' Exhibit 41, speaks for itself, and acknowledges disclosure of prior mining on the property. Furthermore, the appraiser could have reviewed both permit applications (1985 and 1989) at the Meade County Register of Deeds

which fully described the Cement Plant's mining processes. *See* Defendants' Exhibits 21 & 35.

21. The Market Value Appraisal determined the "Highest and Best Use" for the Hideaway Hills property is as "residential ranchette," and set the recommended sale price at \$81,800.

RESPONSE: Undisputed to the extent that Plaintiffs' Exhibit 11 (Defendants' Exhibit 41) speaks for itself. However, the full statement of the evaluation is set forth below:

Buckingham Wood Produces stated that the Northdale development was not profitable, and no expansion plans of the subdivision are being considered. Also, the lack of utilities would negate the financial feasibility of any intense development. In summary, financial feasibility is limited to a residential ranchette; the previous use prior to the sale of the subject to the State Cement Plant for gypsum extraction. No other feasible use is noted.

Id. at STATE 2414 (emphasis added). The property has been a residential ranchette since 1900. Id. at STATE 2411 (describing the Stensaas house and outbuildings as being constructed in 1900).

Furthermore, the appraisal, page STATE 2405, states that the Cement Plant purchased the property for \$140,000, demonstrating that the prior mining impacted the market value of the property, given the almost \$60,000 loss in market value. See Plaintiffs' Exhibit 11, Defendants' Exhibit 41.

22. The Hideaway Hills property was advertised for sale by the State without notice of the presence of an old underground mine on the property and without specifics as to reclamation of either the underground mine or the large pit mine area in the southern part of the property.

RESPONSE: Undisputed to the extent that the invitation to bid speaks for itself. See

Defendants' Exhibit 42 (noting that people may contact the Cement Plant with questions

about the property). Furthermore, both Fuss and Kuchenbecker were aware of the underground mine and the surface mining when they chose to develop the property around ten years after the Cement Plant's sale. See Defendants' Statement of Undisputed Material Facts ¶¶ 68-80 and supporting exhibits.

23. The State sold the Hideaway Hills property to Raymond C. Fuss et ux Carol M. Fuss for \$92,154 on June 17, 1994. No restriction was placed in the Warranty Deed regarding future use or development of the property.

RESPONSE: Undisputed with clarification. The Cement Plant purchased the property for \$140,000, so it lost approximately \$50,000 on the sale. See Plaintiffs' Exhibit 11& Defendants' Exhibit 41, p STATE 2405; see also Defendants' Exhibit 19 (reflecting the purchase price of the property from Stensaas's as \$140,000). Undisputed there were no restrictions placed, but Plaintiffs' expert, Beahm, explained in his deposition that the standard in Wyoming is for local government entities to review the viability of a property for development (See Defendants' Exhibit 16A, pp. 136-37), which occurred in this situation. See Defendants' SUMF ¶¶ 79-85 and supporting exhibits.

24. The Warranty Deed on the Hideaway Hills property transferred from the State on June 17, 1994, reserved to the State all the mineral rights in the property (i.e., the "Mineral Estate").

RESPONSE: Undisputed, however, Plaintiffs' characterization of "mineral estate" is a legal term, which requires no response and is not set forth in the deed from the Cement Plant to Fuss.

25. The State continues to own the Mineral Estate in the Hideaway Hills property to date.

RESPONSE: Undisputed in that the State possesses a mineral rights reservation on the

property it sold to Raymond Fuss. Again, Plaintiffs' characterization of "mineral estate" is a legal term, which requires no response.

26. The surface estate of Hideaway Hills formerly owned by the State is currently divided into plats upon which the owners, Plaintiffs and the class members' houses reside.

RESPONSE: It is undisputed that the Cement Plant sold the property (legally described above in Paragraph 1) to Raymond Fuss, who in turn transferred it to his son, Larry Fuss. See Defendants' SUMF ¶¶ 59-60 and accompanying exhibits. Larry Fuss resided on the land for several years and rented the previously-mined area out for horse grazing. Id. ¶¶ 61-63 and accompanying exhibits. Larry Fuss replatted the property in the mid-1990s (which changed the legal description) because he received a free house to put on the property. Id. ¶¶ 64-67 and accompanying exhibits. When Keith Kuchenbecker approached Larry Fuss requesting to develop the property, Kuchenbecker and Fuss proceeded to replat the property, develop the property, and sell the property to individual homebuilders for the sale of residential homes. Id. ¶¶ 71-85 and accompanying exhibits. Fuss, Kuchenbecker, the realtor who sold the homes, and all homebuilders were made aware that the Cement Plant surface mined the property and that there was an underground mine on the property. Id. $\P\P$ 68-129 and accompanying exhibits. It is undisputed that some, but not all, of the class members now reside in the homes in Hideaway Hills. Defendants' Exhibit 65; Defendants' Exhibit 48, pp 115-17.

27. The State of South Dakota sold the Cement Plan and, by constitutional amendment, deposited the proceeds of the sale into the Cement Plant Trust. SD.
Const. Art. 13, § 20, In 2023, The Cement Plan Trust held \$334,445,059.16 in cash

and investments.

RESPONSE: Undisputed. However, see Part V of Defendants' Brief Supporting Motion for Summary Judgment.

C. Time Is Up. It Is Not Safe To Live In Hideaway Hills.

RESPONSE: While this is a heading for which no answer is required, Defendants deny the same.

25. [sic] The existence of the underground mine was revealed to Plaintiffs and the class members in a fashion both dramatic and brutal. On April 27, 2020, part of the road and sidewalk on East Daisy Drive collapsed, taking into the void water, gas and electrical lines with the concrete and asphalt as they fell.

RESPONSE: Undisputed that on April 27, 2020 a sinkhole formed over the road and sidewalk along East Daisy Drive, which broke utility lines as well. Similar sinkholes had been forming over the years along East Daisy Drive starting as early as 2004 when Keith Kuchenbecker's scraper fell into a fifty-foot cavern when he was scraping the road that would become East Daisy Drive. *See* Defendants' SUMF ¶¶ 93-104 and accompanying exhibits.

26. Investigators that entered the mine void discovered numerous areas of instability where the mine roof was collapsing.

RESPONSE: Undisputed, but not material.

27. Investigation above ground reveals subsidence of streets in the entirety of Hideaway Hills as depicted in Exhibit 1.

RESPONSE: Disputed to the extent this is a very broad assertion, with ambiguity regarding the author's use and definition of the term "subsidence." It is disputed that the

Cement Plant's mining operations are the cause of the streets' damages. Leah Berg explained in her deposition that roads are subject to ongoing maintenance. She had been hired to perform road maintenance services in 2020, prior to the sinkhole, and did complete the project for which she was hired, but the Northdale Sanitary District stopped doing road maintenance in Hideaway Hills when it chose to fire Berg. Defendants' Exhibit 93, pp. 32-33. Additionally, a drive around the Northdale Subdivision, which was built before the Cement Plant purchased the property and also part of the Northdale Sanitary District, reveals nearly identical issues with those streets.

28. Examination of homes reveal evidence of movement and collapse.

RESPONSE: Defendants are unable to adequately respond to "Examination of homes reveal evidence of movement and collapse" as they are unsure what homes to which Plaintiffs are referring. However, with regard to the term collapse, Plaintiffs' expert clarified the definition of collapse as settlement and heaving of .9 inches to one inch annually, depending on the moisture in the soil. Defendants' SUMF ¶ 161; Defendants' Exhibit 17 p. 185. However, it is undisputed that some but not all homes in the Hideaway Hills Subdivision are experiencing settlement in varying degrees, but causation is disputed.

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DEFENDANTS' GENERAL OBJECTION AS TO THE REMAINING PARAGRAPHS

The remaining paragraphs set forth opinions from Plaintiffs' experts, which are not facts. Many rely upon Plaintiffs' expert reports which are inadmissible hearsay. These opinions are disputed and, in many cases, have been contradicted by Plaintiffs' experts' testimony during Defendants' depositions of them. The following paragraphs are not material to either summary judgment motion, because they neither prove nor disprove causation. As such, Defendants set forth a general objection as to the remaining paragraphs, as inappropriate use of opinions disguised as alleged material facts for summary judgment.

29. Plaintiffs' geotechnical engineering expert is Brandt D. Lyman ("Lyman"), Western-EGL Lyman's Final Report ("Final Report"). After substantial investigation and geotechnical testing of subsurface soils, the Final Report finds the following as to Hideaway Hills:

In its current condition significant and extensive geotechnical hazards exist throughout the subsurface of Hideaway Hills Subdivision. These include direct danger of roof collapse of the abandoned underground mine workings, gypsum karst conditions being created in the remaining ore body adjacent to the mine workings, unsuitable fill material consisting of weak, fine-grained soils and gypsum being used for reclamation of surface mining, lack of a specification of backfill materials and compaction requirements to support unrestricted development, and the interaction of natural and artificial aquifers creating softening and weakening of the deleterious fill material and mine workings. These conditions pose an unacceptable risk to homeowners and the public that occupy and use the subdivision. (emphasis added).

RESPONSE: The fact that Plaintiffs' expert made the above opinion is undisputed. The specifics of the opinion, however, are disputed. This is an opinion set forth without specific facts. Regarding the underground mine, Lyman admitted that it does not extend west or north from the current evacuation zone, and as (somewhat) alluded to below, may

only pose a risk to four other houses. Defendants' Exhibit 17, pp. 126, 131. As to the alleged fill material, Lyman, as set forth in Dr. Tinucci's opinion (and Defendants' Brief Supporting Motion for Summary Judgment) has failed to accurately identify fill material, at times changing his opinion as to what does or what does not constitute fill material. Defendants' Exhibit 116. Furthermore, based on the email sent by Patrick Ealy to all parties in the lawsuit following his apparent displeasure with Plaintiffs' counsel allegedly colluding, it appears that Plaintiffs had spelunker, Nicholas Anderson, identifying core samples as "fill material" from core samples retrieved through techniques that require soil to be broken up before a sample can be taken. Defendants' Exhibit 110. While this was during the 2024 boring, it casts doubt on the legitimacy of any of the "fill" classifications set forth by Plaintiffs' experts; especially given Lyman's absence from other drilling surveys. See Defendants' Exhibit 17A, p. 85. While Lyman claims he can identify fill versus natural weathered soil, he and his company failed to take "control" samples of areas that were undisputably not mined for comparison. See Defendants' Exhibit 80. Though they technically did take "control" samples, as samples such as bore holes: 23-1015 and 23-1014 were undisputably not touched by the Cement Plant, even though Lyman is still identifying those samples as fill. See Defendants' Exhibits 80 and 17A, pp. 112-113. Defendants' have much more to dispute about Lyman's opinions and will reserve the same for trial, if necessary.

30. Douglas Beahm, PE, PG, ("Beahm") President of BRS, Inc. was retained to consult with Western-EGI and provide peer review of Western-EGI's investigation and determination. In his Findings and Opinion, Beahm states:

Given the extent of mine-related impacts to the Hideaway Hills subdivision which are overlain by damage to critical infrastructure, the subdivision should be vacated to protect the human health and well-being of the residents.

RESPONSE: Disputed and this is an opinion from someone who peer reviewed Plaintiffs' other expert materials with very little, if any, effort in actually confirming accuracy. To demonstrate how little effort Beahm put into making his opinion, Beahm put together a timeline (which he placed in his expert report, but when examined during depositions, alleged it was really only for his own reference [Defendants' Exhibit 16A, p. 80]) stating that the Dakota Plaster possessed a pit and underground mine from 1911 to 1939. Plaintiffs' Exhibit 16, p. HH12558; see also Defendants' Exhibit 16A, p. 23. The bates stamp he references as support that Dakota Plaster performed underground mining from 1911 to 1939 is a picture of an old wooden structure. Defendants' Exhibit 16A, pp. 23-24, 31-32 & Exhibit 118. To support in his timeline that the Cement Plant performed underground mining and mined the property from 1968 to 1975, which he later retracted in his deposition, Beahm referenced aerial photographs of the property from 1968, 1971, 1972, and 1975, where he alleged there was evidence of mining and potential underground mine openings. Defendants' Exhibit 16A, p. 73. He later admitted the pictures had no support for the proposition the State did any mining, and stated he relied upon spelunker Anderson's research. Defendants' Exhibit 16, p. 76-77. When posed with every authority spelunker Anderson cited in support that the State allegedly mined (surface or underground) between 1968 and 1975, he admitted there was no evidence of the same. Defendants' Exhibit 16, p. 70. When questioned whether what he identified in aerial photographs as mining was actually Victor Pengra's house, and Stensaas's calf shelter, he eventually admitted that they were, in fact not mines and were a calf shelter and Pengra's

house. Defendants' Exhibit 16, pp. 76-80, 121-22. He also stated that if Hideaway Hills had never been developed there would not be a lawsuit. Exhibit 16A, pp. 125-26. As with Lyman's opinions, Defendants' have much more to dispute about Beahm's "opinions" and will reserve the same for trial, if necessary.

31. There are three different hazards in the subsurface of Hideaway Hills that render the area too dangerous for Plaintiffs and class members to continue to live there. First, the condition of the underground mine, which is, and has been, open to the atmosphere has introduced water into the subsurface. This water dissolves the gypsum in the mine's subsurface causing formation of caves and the roof of the mine to be increasingly unstable. The Final Report states, "it is our opinions that abandoned mine workings pose a danger to properties well beyond their current extents." The Final Report, in particular, reveals that properties located at 6862 E. Daisy Drive, and 6853, 6879 and 6891 W. Elmwood Drive are at increased risk of damages from collapsing mine workings.

RESPONSE: Disputed. Class members (other than the evacuation zone) have been living there, continue to live there, and will undoubtedly continue to live there even if Plaintiffs prevail. It is undisputed that it is too dangerous for people to reside in houses in the evacuation zone. Plaintiffs have provided no evidence that 6862 E. Daisy Drive, and 6853, 6879 and 6891 W. Elmwood Drive. Importantly, Lyman admitted that the underground mine is not expanding to the west or north. Exhibit 17, p 131. In other words, houses to the west of East Daisy drive and north of the current mapped sinkhole are not at risk due to the underground mine. *Id.* As with the above paragraphs, Defendants' have much more to dispute about Beahm's "opinions" and will reserve the same for trial, if necessary,

or supplement if the Court requires.

32. Second, sampling of soil found in drilled holes revealed that large areas of the subdivision, and underneath most of the homes is a subsurface filled with material that consists of pulverized soft sedimentary rock and gypsum. Testing of samples throughout the Hideaway Hills subdivision revealed the pulverized fill dirt used by the State in reclamation contains from approximately 2% to 85% pulverized gypsum (an average of over 50%), which dissolves with the introduction of water. This dynamic de-stabilizes home foundations, structures, and streets. Moreover, tests conducted by Western-EGI showed that the fill used to reclaim homes is capable of sudden collapse once the soil is saturated with water. Substantial damages to persons and property could happen at any time.

RESPONSE: Disputed. Preliminarily, Lyman admitted he did not know where the Cement Plant mined and where past mining operations mined. Defendants' Exhibit 17A, pp. 169, lines 18-25, 170. Lyman further used bore samples from areas outside of the permit area in determining the "average gypsum percentage"; some of the highest concentrations of which were outside of the permit area. Defendants' Exhibit 17, pp 161-68; Defendants' Exhibit 17A, p. 169. Lyman agrees that there is no evidence that the Cement Plant mined outside of its permit area. *Id.* p. 141. Therefore, regardless of whether the "pulverized gypsum percentage" is 2% or 85% Plaintiffs cannot attribute the percentages to the Defendants. This is especially true given the issues Plaintiffs have had with identifying whether given samples are fill placed by mining operations (the Cement Plant or others) or weathered soil, as well as the issues with non-expert identification covered up with a Professional Engineer's stamp on the reports. *See* Defendants' Exhibit

116.

Finally, the collapse conditions referenced by Lyman as settlement and heaving of

.9 inches to one inch annually, depending on the moisture in the soil. Defendants' Exhibit

17, p. 185. Referring to such as "substantial damages to persons or property" that could

happen anytime is hyperbole.

33. Finally, the inability of the fill dirt used in reclamation to support any kind of structure

has resulted in serious damage to the sewer pipes in Hideaway Hills. The sewer force

main is threatened by the continued subsidence of the collapse on East Daisy Drive and

may spew sewage into the mine collapse area. Water lines in the neighborhood are

similarly impacted and leaking water. It is uncertain water pressure in Hideaway Hills

is sufficient to fight a home fire.

RESPONSE: Disputed. See Defendants' Statement of Additional Material Facts in its

entirety.

D. There Can Be No Dispute-The Conditions at Hideaway Hills Are Hazardous

RESPONSE: While this is a heading for which no answer is required, Defendants dispute

the same.

34. Western-EGI is the only geotechnical engineering firm, and testifying expert Brandt

Lyman is the only geophysical engineer, that has taken an ample statistical sampling of

soils from the subsurface of Hideaway Hills, commencing in 2020 and continuing

through 2024, and tested the samples to determine the nature of the subsurface soils,

whether the subsurface is likely to collapse or subside, and whether it is capable of

supporting utilities. This litigation has been going on for four (4) years and the State

has conducted no geotechnical studies of the area:

21

RESPONSE: Disputed. Specifically with regard to Plaintiffs' argument regarding utilities, it is important to understand the current situation of the Northdale Sanitary District in this matter.

As such, the following are additional responsive facts (hereinafter referred to as "Responsive Facts" followed by paragraph number in later citations and responsive briefing) in dispute of Plaintiffs' Statement of Undisputed Material Facts:

- The Northdale Sanitary District encompasses the Northdale Subdivision, Hideaway
 Hills 1, and Hideaway Hills 2. Exhibit 59; Exhibit 98, p. 40.
- 2. Its wells also service a trailer park located to the south of the Northdale Subdivision.

 Exhibit 52, p 45.
- 3. The Sanitary District is a governmental entity formed pursuant to SDCL ch. 34A-5
- 4. Pursuant to State law, a Sanitary District's governing structure is in the form of a Board of Trustees composed of elected residents within the district's boundaries. SDCL § 34A-5-14.1.
- 5. After the 2020 sinkhole appeared the Sanitary District, which is also in charge of road maintenance and construction within its boundaries, started the process of seeking funding for the rerouting of utility lines, and specifically the force main located above the underground mine. Exhibit 93, pp. 7, 10-11.
- 6. Sewage from the homes is pumped through force main into the lift station located north of Hideaway Hills, which in turn is pumped to Rapid City. Exhibit 93, p. 8.
- 7. If the force main collapses into the mine, potentially sewage from all of the homes in the development could end up in the mine. *Id.* p. 10.

- 8. The Sanitary District hired Leah Berg, and engineer with ACES who was already contracted for the District's road projects, to work on a plan to reroute the utility lines away from the underground mine, and to allow the lines to loop, which had been prevented by the collapse and subsequent closure of some of the lines over the underground mine. Exhibit 93, 7-11.
- 9. Berg provided a preliminary engineering proposal to the Sanitary District which would have looped the utilities along Interstate 90. Exhibit 94.
- 10. The recommendation was made after AET drilled several test holes, first at a depth of ten feet, then (after the Board requested) at a depth of fifty feet or confirmed bedrock, along the proposed route location and found the soil acceptable for utility installation. Exhibit 93, pp. 20-21; Exhibit 95; Exhibit 96.
- 11. The South Dakota Department of Transportation had also drilled test holes in the same area to determine whether or not the underground mine extended onto the Interstate right-of-way and it found no voids. Exhibit 97.
- 12. The preliminary engineering report was needed by the District to apply for and secure a loan from the State of South Dakota. Exhibit 93, p. 11.
- 13. Berg presented her preliminary report to the Board and the Board voted to move forward with securing funding from the loan program in September of 2020.

 Exhibit 93, p. 18.
- 14. However, in the months that followed receiving the loan approval, numerous members of the class action and plaintiffs in the Adamson lawsuit (who have now opted into the present lawsuit) started attended the Sanitary District meetings and

- complaining about the proposal feeling it was not thorough enough. Exhibit 93, pp. 27-28.
- 15. One resident, specifically, Stephany Fischer, told Berg that she did not want to reroute to move forward because the lawsuit was going to pay for everyone's houses, and she didn't feel that the District should waste the money to reroute. Exhibit 93, pp. 27-28.
- 16. As a result of the complaints the Board of Trustees resigned and a special election was held, which elected Randy Janssen, Lesa Sumners and Stephany Fischer; all of whom reside in Hideaway Hills 1 or 2 and all of whom were clients of John Fitzgerald, but are now² opted into the present lawsuit. Exhibit 98, pp. 30-31, 38-39; see also Exhibit 93, p. 28-29.
- 17. Shortly after the new board was established, the Board fired Leah Berg and hired Patrick Ealy as a consultant. Exhibit 98 pp. 30-31, 38-39.
- 18. Up until a month before he was hired, Ealy had been a paralegal for John Fitzgerald. Exhibit 98, p. 28.
- 19. Around the same time, the law firm representing the Sanitary District, Clayborne, Loos & Sabers, LLP, resigned from its representation of the District.
- 20. Following the special election, the Board hired RESPEC, a geological consulting firm, to perform an analysis on potential utility rerouting using materials from as to Dr. Khalil, who is an expert in Fitzgerald's, Adamson lawsuit. Exhibit 98, pp. 33, 43.

² Randy Janssen is deceased, but his widow is a class member.

- 21. RESPEC provided multiple options for rerouting of the utility lines (including a reroute along Daisy Drive) and suggested installing a water monitoring system for potential leaks in the existing lines. Exhibit 99.
- 22. RESPEC's phase one report focused on providing locations to reroute the force main, including along the Interstate, along Meadow Rose Land, and along Daisy Drive. Its report stated in phase two it would provide a drilling plans to assess stability after the Sanitary District decided upon a reroute. *Id.*
- 23. RESPEC's phase two, however, did not include drilling plans. Instead it focused on inspecting the sewer lines within the Sanitary District. Exhibit 100.
- 24. While RESPEC found several areas that required attention in Hideaway Hills its recommendation was to replace the sewer lines in Northdale between manhole E5 and E9, most of which is outside of the class action boundary and given the ages of the homes and aerial maps from 1980³, were installed prior to the Cement Plant mining their property. *Compare* Exhibit 100, p.3; with p. 5 (showing locations of MH E5 through E9) and Exhibit 101 (showing aerial view of location on May 8, 1980 with street installed in same location).
- 25. Brandon Powles, who serviced the water for the Sanitary District until he resigned in 2023, explained that the pipes in the Northdale Subdivision are worse than Hideaway Hills because are older than Hideaway Hills and installed using recalled material, which has led to a bunch of leaks. Exhibit 52, p 55.
- 26. Powles, who services around twenty-five water user districts in the Black Hills, further explained that the water loss numbers by the Northdale Sanitary District

³ The street was installed. As such it follows that utilities would have been installed as well.

- are actually less than in some of the districts he services, and not even the worst one he services. That honor went to Carriage Hills. Exhibit 52, p.p 54-55, 57, 74-75.
- 27. In December of 2023, Ealy reached out to Impact7G seeking various services, including creating a 3D map of underground resistivity analysis readings performed by Dr. Mohamed Khalil, who was also an expert hired by John Fitzgerald in the Adamson case and who is also retained by the Sanitary District. Exhibit 102.
- 28. Ealy believed the resistivity analysis demonstrated underground voids in areas other than the mapped underground mine⁴ and Ealy wanted 3D renderings for press conferences he was planning to call when the Sanitary District announced it was abandoning the utility lines in Hideaway Hills. Exhibit 102; Exhibit 103, pp. 38-39.
- 29. RESPEC continued to attempt to work with the Sanitary District, through Ealy, to perform drilling to determine the potential locations for the utility reroute. Exhibit 104, Exhibit 105, pp. 10-11.
- 30. However, each time RESPEC attempted to schedule drilling or proposed drilling locations, Ealy would either fail to respond or would provide RESPEC with proposed drilling locations that had nothing to do with potential reroute locations. Exhibit 105, pp. 10-14; Exhibit 104.

⁴ Resistivity analysis is a process which measures a material's electrical resistance, or how it resists electric current. Khalil performed resistivity analysis throughout Hideaway Hills and believed he found several voids due to levels of resistivity he allegedly found in the area. However, resistivity testing requires confirmation through drilling. For instance, the DOT first performed resistivity testing prior to drilling along the interstate and drilled in areas that revealed potential voids. See supra Responsive Facts ¶ 11; Exhibit 97, pp STATE 5875-81. When the DOT drilled it determined the potential voids were solid gypsum, which creates similar readings as a void would. Id.

- 31. RESPEC felt that Ealy was more interested in evaluating the ground conditions under the homes and helping the lawsuit than he was in finding a viable reroute for the utility lines. Exhibit 105, pp. 12-14, 19.
- 32. Ealy later hired the subcontractor, Dakota Testing and Engineering, that RESPEC was planning to use to drill bore holes for its reroute viability study, to drill holes in areas where Khalil's resistivity analysis suggested potential voids. Exhibit 106, pp. 8, 17-19, 23. Dakota Testing was originally set to drill twenty-five holes throughout Hideaway Hills and Hideaway Hills 2 (Exhibit 107), but after it had drilled twelve holes and did not find the voids that the resistivity analysis suggested were present, Ealy stopped the drilling operation. Exhibit 106, pp. 8, 17, 23-24 & Exhibit 108.
- 33. Dakota Testing was told by Ealy that its sole purpose for drilling was to find mine shafts and voids for the purpose of condemning the neighborhood instead of fixing the utilities. Exhibit 106, pp. 8, 17-19, 23
- 34. When RESPEC learned that Ealy had drilled without their involvement, RESPEC resigned from assisting the Sanitary District. Exhibit 105, pp. 16, 19-20.
- 35. RESPEC felt the Sanitary District did not want to fix the sewer lines and therefore it was no longer interested in working with the Sanitary District. Exhibit 105, pp. 16-17, 19-20.
- 36. By February of 2024, the Board was running into a March 1, 2024 deadline to provide the State with final construction documents to ensure continued loan availability for the reroute project. Exhibit 93, p. 29.
- 37. It reached out to Berg seeking a proposal to submit to the State for continued funding. Berg responded to the Board's inquiry with a willingness to submit a

- proposal for the reroute agreeing to have it completed by the March 1, 2024 deadline. Exhibit 93, pp. 29-30; Exhibit 113.
- 38. Berg did not hear back from the Board. Exhibit 93, pp. 29-30.
- 39. Stephany Fischer wrote the South Dakota Department of Agriculture and Natural Resources on March 15, 2024, requesting that it de-obligate the loan funds the Board had secured in 2020. Exhibit 114.
- 40. Following RESPEC resigning, Ealy requested Impact7G to give an informational presentation at a Sanitary District meeting to residents of Hideaway Hills. Exhibit 103, p. 23; Exhibit 109.
- 41. Jesse Broce, a geologist, presented in Mid-March of 2024. Exhibit 103, p. 23.
- 42. Broce's presentation centered on the resistivity analysis performed by Khalil and Impact7G's 3D modeling of it. Exhibit 103, pp. 27-28.
- 43. However, while Broce did feel that the ground around Hideaway Hills would continue to gradually shift, like it had been for years, he did not believe based on the analysis that there were voids anywhere but around the evacuation area, and he told the residents the same. Exhibit 103, p. 39-40, 50.
- 44. Broce also suggested that a utility reroute was viable and that the Board should look at relocating the force main away from the gypsum beds which encompassed a large part of Hideaway Hills. Exhibit 103, pp. 42-43.
- 45. Broce suggested the Sanitary District should reroute along the west, where the railroad was located. Exhibit 103, pp. 42-43.
- 46. Impact7G was no longer working for the Sanitary District when Broce was deposed on June 3, 2024. Exhibit 103, p. 54.

47. On May 30, 2024, Ealy sent an email to all parties accusing Plaintiff's attorneys of colluding to condemn the utility lines, after he had apparently reviewed the information provided to the Sanitary District by Western EGI, the Plaintiffs' engineering expert, and found it lacking. Exhibit 110. The email contained recordings of part of a conversation Ealy had with Kathleen Barrow and David Crooks in February of 2024. *Id.*; Exhibit 111 (the applicable recording). The applicable portion of the recordings stated as follows:

Barrow: We need the board to say to you, "Yes, we want you to pursue

RESPEC interacting with Western ..."

Crooks: EGI

Barrow: "... EGI to determine whether an evacuation order should be

issued." That's all we need.

Ealy: And that call's going to be tomorrow at 10 a.m.

Barrow: Okay, once that happens, we can pull RESPEC and EGI

together. We'll come up with some sort of agreement that protects the lawsuit and it'll happen, because Brandt's [Lyman] ready. So he will give to RESPEC and RESPEC will give to him

... and they'll come to a mutual notice of some sort.

Ealy: My only concern and hesitation with that is obviously they are

retained by you as your expert. RESPEC is retained by Northdale as a nonparty. So if we start mixing experts It's

as bad enough that we hired Mohamed [Khalil].

Barrow: We're not mixing experts. We're going to share ...

Crooks: We're providing some information to you under confidentiality.

Barrow: For the health and safety of the people in the neighborhood,

that's it.

Ealy: I think that's the way to sell it. It makes a lot of sense.

Barrow: No it's actually what we plan on having it happen.

Crooks: It's the only way we can do it.

Barrow: And what will happen is we're gonna . . . and we're gonna let

Northdale issue whatever, but we're also going to take a joint, there will be a joint statement to the DANR to EPA to the Clean

Water Act people.

Ealy: No, we're gonna call a press conference out there. We're gonna

have Kristi Noem and everybody come to town.

Barrow: Okay, that's fine.

Ealy: It's gonna to be a full-on evacuation. It's gonna be Stephany

Fischer and I at the microphone saying "Here's what we found. Here's what the experts are telling us." Then Todd Kepler, CEO of RESPEC's gonna take fifteen minutes and I'll take

fifteen

Barrow: Western EGI may not want its name in that, but it will provide

the data.

Ealy: A little bit of press never hurt anybody. That's how you grow a

company.

Crooks: We just don't want to be accused of colluding with you. And

they're gonna say you're part of Fitzgerald and

Barrow: The State is going to look at it as something we did to try to lock

in our lawsuit. They've already said that.

Ealy: That's why we need to be careful with the experts.

Barrow: That's what I'm saying. And we've already said that they've

already said that they don't believe that there's anything wrong

with these utilities.

Crooks: Yeah they said of course they're gonna condemn because the

people on the board of Fitzgerald's clients.

Ealy: Which makes no difference if their Fitgerald clients or your

clients. They all got a finger in the game.

Crooks: We're fully aware. We're fully aware. So does the state.

Barrow: We'll come to agreements about how its [inaudible] and this and

that. Brandt and Rob at Western believe that they have an

ethical obligation to do something. So we're gonna do something. We're not saving what that thing or what that result

is, right?

Ealy: Yeah, let RESPEC through ... Same thing with us. There's no

correspondence between me and RESPEC saying "Hey, this is

the conclusion you need to arrive at."

Barrow: Yes.

Ealy: That would be really horrible.

Barrow: Okay.

Exhibit 111.

48. Berg was deposed in May of 2024 and continues to believe that the original planned

reroute location is a viable option for rerouting the utilities and she believes the

reroute could be performed in less than six months. Exhibit 93, pp. 17-18.

49. Berg, additionally, believes the issues the Sanitary District is seeing with their

sewers sagging and potential leaks are all part of ongoing maintenance. Exhibit 93,

pp. 31-33. Berg explained that any system is open for the potential of sagging, joint

separation, and cracking of pipes, stating "it's nothing that you can just put in there

and put in place, put in the ground and walk away from. Just like the roads, their

maintenance program that we were working on, the sewer needs to be inspected on

a routine basis." Id. pp. 31-32.

50. As of May 29, 2024, the Sanitary District has placed the reroute project on an

indefinite hold, because its members still allege, based on Khalil's resistivity analysis

(despite the bore holing operation showing otherwise and their own consultant's

opinion), that voids are located along the Interstate 90 reroute location. Exhibit 112,

pp. 10-12.

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51. The Sanitary District Board additionally confirmed that Fox Rothschild had been encouraging them to condemn/vacate the utility lines in Hideaway Hills. Exhibit 112, pp. 8-10.

FURTHER RESPONSE TO PLAINTIFFS' PARAGRAPH 34: Disputed, AET took sampling, as did Dakota Testing and Engineering. See Responsive Facts ¶¶ 10-11, 32-33 and accompanying exhibits. RESPEC wanted to take samples, but refused to work with the Northdale Sanitary District after it became apparent that the District was seeking to help the lawsuit as opposed to fixing their sewer issues. Responsive Facts ¶¶ 29-35, 47 and accompanying exhibits. Plaintiffs have the burden in this matter. It is not Defendants' burden.

a. The State's expert, John Tinucci, Ph.D., testified he never visited the site of Hideaway Hills, and he conducted no soil sampling or testing to determine what percentage of pulverized gypsum exists in the subsurface soil of Hideaway Hills or what percentage of gypsum in soils would cause subsidence or collapse. Tinucci testified that he was not sure whether Lyman's testing methodology was an accurate way to predict the percentage of gypsum in a sample, but admitted he had not looked at the scientific literature for that methodology.

RESPONSE: Undisputed but not material that Dr. Tinucci did not conduct soil sampling, but he did thoroughly criticize Lyman's sampling and the same is set forth in Defendants' Exhibit 116. It is further undisputed but not material that Dr. Tinucci did not review literature regarding gypsum content, because while Plaintiffs may believe that the gypsum content in soil on which they cannot tell if the Cement Plant mined or not is important, Dr. Tinucci chose to focus on dispositive matters. See id.

b. The State's expert, Robert Barnes ("Barnes"), studied in the area of mining engineering and has an MBA. Barnes testified that the State Cement Plant required gypsum because it is a retardant in the cement curing process. Barnes testified he visited Hideaway Hills, observed the blocked off area, and saw a "bunch of places" where there was settlement of sidewalks and roads. Barnes did not do any sampling or testing of soils in Hideaway Hills, however. Barnes testified, based upon review of photos of the mine, that the State reclaimed its strip-mined areas and the area of the underground mine with overburden and soil the State had mined out. The State utilized non-engineered fill in its reclamation, so subsidence of the soils in Hideaway Hill was a "national [sic-meaning "natural"] occurrence. Barnes testified that the presence of pulverized gypsum in the State's backfill would decrease the stability of the backfill.

RESPONSE: Disputed to the extent that Plaintiffs' Exhibit 18 speaks for itself. Barnes' actual opinions are set forth in Defendants' Exhibit 117.

c. Jesse Broce, Ph.D. ("Broce") Impact7G, geologist (paleontology), testified to his observations of sinkholes and subsidence in Hideaway Hills, and his study of electric resistivity data in Hideaway Hills. However, Impact7G never performed any drilling for subsurface soil samples, and Broce agrees that the kind of testing he studied personally may be interpreted differently by different experts. Broce agrees the testing results he studied does not indicate what percentage of pulverized gypsum might be contained in the subsurface soils of Hideaway Hills.

RESPONSE: Undisputed, but not material, that upon cross examination in his deposition Broce stated the above. Broce also stated that he believed that there was a viable reroute option for the sewer force main. Responsive Facts ¶ 44 and accompanying exhibit. Broce also stated that he did not believe the conditions in Hideaway Hills were as catastrophic as Plaintiffs are making them out to be. Responsive Facts ¶ 43 and accompanying exhibit.

d. Civil Engineer, Leah Berg, ("Berg") Affordably Creative Engineering Services, testified that no geotechnical testing of bore hole samples to determine subsurface soil conditions was conducted by her team, outside the area of the initial proposed force main sewer line proposed reroute line, in the years 2020 and 2021. Berg agreed that conditions may have changed in the subsurface soils since that time along the route she tested.

RESPONSE: Undisputed, but not material, that upon cross examination in her deposition Berg stated the above. However, this fact is confusing without context. Berg with AET performed boring along a proposed reroute plan next to Interstate 90 and down to West Elmwood Drive. Responsive Facts ¶ 10 and accompanying exhibits. AET first bored at locations of 10 feet, and then they bored in the same locations down to 50 feet or confirmed bedrock. The proposed reroute location was viable to reroute the sewer force main. *Id.*

e. Karen Brady ("Brady") appeared for a Section 30(b)(6) deposition on behalf of RESPEC. Brady serves as Vice President of Infrastructure (the utility sector) of RESPEC. RESPEC was retained by Northdale Sanitary District in 2022 to evaluate the condition of water and sewer utilities at Hideaway Hills and, later, discussed a potential "reroute project." RESPEC recommended drilling be conducted to determine the stability of the subsurface at Hideaway Hills.

RESPEC made three alternative recommendations for rerouting the water and sewer utilities, but could not determine the best route until soil was evaluated. Before RESPEC could proceed with work, however, a dispute arose with Northdale Sanitary District's representative concerning the scope of work. Ultimately, RESPEC walked away from its business dealings with Northdale Sanitary District. Consequently, RESPEC never conducted drilling in Hideaway Hills to evaluate the ability of the subsurface to support water or sewer utilities.

RESPONSE: Undisputed, but the information provided omits important details. RESPEC, a geological consulting firm, was hired by the Northdale Sanitary District to perform an analysis on potential utility reroute locations. Responsive Facts ¶ 20. RESPEC provided multiple options for rerouting of the utility lines and suggested installing a water monitoring system for potential leaks in the existing lines. Id. ¶ 20. RESPEC's phase one report focused on providing locations to reroute the force main, including along the Interstate, along Meadow Rose Lane (adjacent to the railroad tracks), and along Daisy Drive. Id. ¶ 21 and accompanying exhibit. Its report stated RESPEC's phase two report would provide drilling plans to assess stability after the Sanitary District decided upon a reroute. Id.

RESPEC's phase two report, however, did not include drilling plans. Instead, it focused on inspecting the sewer lines within the Sanitary District. Responsive Facts ¶ 22 and accompanying exhibit. While RESPEC found several areas that required attention in Hideaway Hills its recommendation was to replace the sewer lines in the Northdale Subdivision between manhole E5 and E9, most of which is outside of the class action

boundary and given the ages of the homes and aerial maps from 1980^5 , were installed prior to the Cement Plant mining their property. *Id.* ¶ 23 and accompanying exhibit.

RESPEC continued to attempt to work with the Sanitary District, through Ealy, to perform drilling to determine the potential locations for the utility reroute. Responsive Facts ¶ 29. However, each time RESPEC attempted to schedule drilling or proposed drilling locations, Ealy would either fail to respond or would provide RESPEC with proposed drilling locations that had nothing to do with potential reroute locations. *Id.* ¶ 30. RESPEC felt that Ealy was more interested in evaluating the ground conditions under the homes and helping the lawsuit than he was in finding a viable reroute for the utility lines. *Id.* ¶ 31.

Ealy later hired the subcontractor, Dakota Testing and Engineering, that RESPEC was planning to use to drill bore holes for its reroute viability study, to drill holes in areas where Khalil's resistivity analysis suggested potential voids. Responsive Facts ¶ 32. Dakota Testing was originally set to drill twenty-five holes throughout Hideaway Hills and Hideaway Hills 2, but after it had drilled twelve holes and did not find the voids that the resistivity analysis suggested were present, Ealy stopped the drilling operation. *Id.* Dakota Testing was told by Ealy that its sole purpose for drilling was to find mine shafts and voids for the purpose of condemning the neighborhood instead of fixing the utilities. *Id.* ¶ 33.

When RESPEC learned in March of 2024 that Ealy had drilled without their involvement, RESPEC resigned from assisting the Sanitary District. Responsive Facts ¶ 34. RESPEC felt the Sanitary District did not want to fix the sewer lines and therefore it was no longer interested in working with the Sanitary District. *Id.* ¶ 35.

⁵ The street was installed. As such it follows that utilities would have been installed as well.

Plaintiffs' attorneys were apparently seeking to quietly collaborate with the Northdale Sanitary District and RESPEC to force an evacuation of Hideaway Hills.

Responsive Facts ¶ 47 and accompanying exhibits. However, RESPEC resigned instead.

f. Fact witness, Mohamed Ahmed Khalil Aboushanab, Ph.D., ("Dr. Khalil") (Geosciences), works as an assistant geoscientist at the Panhandle Research Extension Center, Scottsbluff, Nebraska. Dr. Khalil has worked for over 20 years with electric resistivity in his environmental and engineering work. Dr. Khalil was retained by the Geophysical Engineering Department, Montana Tech University to conduct an electric resistivity study of the subsidence at Hideaway Hills. Dr. Khalil was also retained by the Fitzgerald law firm. Dr. Khalil conducted no drilling or testing of subsurface soils at Hideaway Hills. Dr. Khalil tried to classify the areas of Hideaway Hills by geotechnical risk, based upon electric resistivity testing, and concluded all the testing zones "are risky." Dr. Khalil testified that the geotechnical map he developed was not intended to give information about houses or building. When confronted with the fact that his report was winding up in appraisals of homes for sale in Hideaway Hills, Dr. Khalil testified he was not aware of that, and denied his map was intended for that purpose. Khalil testified that the hazards in Hideaway Hills "are progressive." Dr. Khalil testified: "So if you have a stable gypsum this year, 2024-so this gypsum, after two years or three years will not be stable."

RESPONSE: Undisputed but not material.

E. The Plaintiffs' and Class Members Homes are Worthless.

RESPONSE: While this is a heading for which no answer is required, Defendants dispute the same.

34. When the State left its mining operations in Hideaway Hills, with the underground mine open to air and water and the fill dirt in the subsurface inundated with pulverized gypsum that dissolved with every rain and snow, the State doomed the surface estate to subsidence and collapse.

RESPONSE: Disputed. Plaintiffs' citation to this "fact" is a summary from Lyman's expert report that contains no citation and does not even say that the Cement Plant left the underground mine open to the air and water, or that pulverized gypsum is being dissolved with every rain and snow.

35. After a thorough market investigation, Real Estate Expert Craig Steinley ("Steinley") produced his Report. Steinley determined:

SDCL § 10-6-104, formerly cited as SD ST§ 10-6-1.3, defines the terms 'fair market value' and 'full and true value' as the price in money that property will bring in a competitive and open market under all conditions requisite to a fair sale between a willing buyer and a willing seller, each acting prudently and with full knowledge of the relevant facts, and assuming the price is not affected by any undue stimulus.

A willing buyer acting prudently and with full knowledge of the relevant facts would not purchase a residential property in Hideaway Hills Subdivision at any price and would instead choose a reasonable substitute in a competitive alternate location.

RESPONSE: Disputed, by people buying and selling homes within the subdivision from a couple weeks after the sinkhole occurred to a couple of weeks before this response was filed. Plaintiffs' Summary Judgment Exhibit 1 shows properties in blue or not highlighted in any color within Hideaway Hills (noting that blue properties to the south on

Pengra, West Elmwood, and all of Hideaway Hills 2 (minus the west side of West Elwood) are all people who sold their homes after the sinkhole.

Properties from west to east that were sold include

- 6925 Meadow Rose Lane: Sold for \$285,000 on July 21, 2021.
- 6895 Meadow Rose Lane: Sold for \$395,000 on July 29, 2022.
- 6815 Meadow Rose Lane: Sold for \$280,000 on October 12, 2023.
- 6795 Meadow Rose Lane: Sold for \$340,000 on June 22, 2022.
- 6665 Meadow Rose Lane: Sold for \$314,000 on February 1, 2023.
- 6810 Meadow Rose Lane: Sold for \$299,500 on June 13 2022.
- 5171 Blue Bell Drive: Sold for \$239,900 on May 27, 2020.
- 5160 Blue Bell Drive: Sold for \$257,000 on September 23, 2021.
- 5112 Pengra Lane: Sold for \$250,000 on October 6, 2021.
- 6855 Daisy Drive: Sold for \$280,000 on June 8, 2022.
- 6875 Daisy Drive: Sold for \$310,500 on June 13, 2023.
- 6905 Daisy Drive: Sold for \$201,300 on May 9, 2023 (foreclosure).
- 6935 Daisy Drive: Sold for \$296,000 on August 23, 2023.
- 7045 Daisy Drive: Sold for \$240,000 on February 22, 2022.
- 7075 Daisy Drive: Sold for \$245,000 on March 6, 2024.
- 6812 East Daisy Drive (three houses from evacuation zone): Sold for \$225,000 on April 22, 2024.
- 6879 W. Elmwood Drive (a house Lyman alleges may fall into the mine): Sold for \$244,900 on April 9, 2021.

Defendants' Exhibit 119 (containing the Beacon reports of each property).

36. The Plaintiffs' and Class Member's homes are worthless.

RESPONSE: Disputed. See response to Paragraph 35.

Dated this 29th day of July, 2024.

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CERTIFICATE OF SERVICE

Terra M. Larson of May, Adam, Gerdes & Thompson LLP hereby certifies that on the 29th day of July, 2024, she electronically served a true and correct copy of the foregoing in the above-captioned action via the Odyssey File & Serve system, which will notify and serve all counsel of record.

/s/ Terra M. Larson
TERRA M. LARSON

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Filed: 7/29/2024 2:12 PM CST Meade County, South Dakota 46CIV20-000295 - APPENDIX 107 -

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			Const. A	Art. 6, § 13						
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History: Amendment proposed by SL 1961, ch 297, approved Nov. 6, 1962. Amendment proposed by SL 1989, ch 3, rejected November 6, 1990.

Notes of Decisions (320)

Const. Art. 6, § 13, SD CONST Art. 6, § 13 Current through the 2024 Regular Session and General Election

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TITLE 74

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

ARTICLE 74:29

MINED LAND RECLAMATION

Published by
South Dakota Legislative Research Council
Revised through November 1, 1993

TITLE 74

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Artic	Article						
74:01	General administration, Transferred to Article 74:25.						
74:02	Water rights.						
74:03	Water pollution program.						
74:04							
74:05	Water development.						
74:06	and 74:07 Reserved.						
74:08	Administrative fees.						
74:09	Procedures Board of minerals and environment.						
74:10	Oil and gas conservation.						
	Mineral exploration.						
	to 74:14 Reserved.						
74:15	Litter disposal and control.						
74:16	to 74:19 Reserved.						
74:20	Conservancy subdistricts, Repealed.						
74:21	Water system operators.						
74:22	Weather modification.						
74:23	and 74:24 Reserved.						
74:25							
74:26	Air pollution control program, Transferred to Article 74:36.						
	Solid waste.						
	Hazardous waste.						
74:29							
74:30							
74:31	\$25,000 (Mark 1990) 1990 - 1990 (Mark 1990) 1990 (Mark 19						
74:32							
74:33							
74:34							
74:35							
74:36							
74:37	Air pollution control program fees.						

ARTICLE 74:29

MINED LAND RECLAMATION

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Chapter
74:29:01 Permit applications -- Filing and review.
74:29:02 Permit applications -- Completeness requirements.
74:29:03 Permit amendments.
74:29:04 Permit transfers.
74:29:05 Reclamation of millsites.
74:29:06 Procedure for determining reclamation type.
74:29:07 Minimum reclamation standards.
74:29:08 Concurrent reclamation.
74:29:09 Temporary cessation.
74:29:10 Special, exceptional, critical, or unique lands.
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Revised through November 1, 1993

74:29:06:04. Alternative postmining land use. If the postmining land use selected for a reclamation plan is industrial use, homesite development, or future mineral exploration and development, the applicant must select an alternative postmining land use to be implemented if the approved postmining land use and reclamation plan are not achieved pursuant to chapter 74:29:07. When required, alternative postmining land uses must be determined at the same time as the postmining land use.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-68-81. Law Implemented: SDCL 45-68-44, 45-68-45.

74:29:06:05. Approval required for future mineral exploration and development as a reclamation type. Future mineral exploration and development as a reclamation type is subject to approval by the board, the operator, the landowner, and the local board of county commissioners pursuant to SDCL 45-6B-44. Landowner, county commission, and operator approval of this reclamation type must obtained before submission of a mining operation permit application or a permit amendment application.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-44, 45-6B-45.

74:29:06:06. Confidential information. Information marked confidential that is provided to justify future mineral exploration and development or other reclamation types is considered part of the permit application and shall be protected pursuant to SDCL 45-6B-19.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-68-81. Law Implemented: SDCL 45-68-19.

CHAPTER 74:29:07

MINIMUM RECLAMATION STANDARDS

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Section
74:29:07:01 General requirements for all reclamation types.
74:29:07:02 Minimizing of adverse impacts.
74:29:07:03 Grading and backfilling -- Necessity.
74:29:07:04 Grading and backfilling -- Criteria.
74:29:07:05 Disposal of refuse.
74:29:07:06 Revegetation.
74:29:07:07 Topsoil management.
74:29:07:08 Hydrologic balance -- Water quality.
74:29:07:09 Surface runoff diversions.
74:29:07:10 Diversions of intermittent and perennial streams.
74:29:07:11 Impoundments.
74:29:07:12
            Roads and railroad spurs.
74:29:07:13 Buildings and structures.
74:29:07:14 Spoil.
74:29:07:15 Noxious weeds.
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74:29:07:16 Subsidence.
74:29:07:17 Underground mines.
74:29:07:18 Requirements for specific types of reclamation.
74:29:07:19 Forest planting.
74:29:07:20 Rangeland.
74:29:07:21 Agricultural or horticultural crops.
74:29:07:22 Wildlife habitat.
74:29:07:23 Recreation.
74:29:07:24 Industrial use.
74:29:07:25 Homesites.
74:29:07:26 Future mineral exploration or development.
74:29:07:27 Permanent surface impoundment.
74:29:07:28 Changes occurring in approved reference area.
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74:29:07:01. General requirements for all reclamation types. All mining operations must comply with the general requirements in §§ 74:29:07:02 to 74:29:07:17, inclusive, and with the following requirements:

- (1) Reclamation must rehabilitate the affected land to a condition that meets the selected postmining land use;
- (2) All reclamation activities are subject to the concurrent, interim, and final reclamation requirements of chapter 74:29:08; and
- (3) All reclamation required by the approved reclamation plan must be completed prior to final and full bond release.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-25, 45-6B-45.

74:29:07:29 to 74:29:07:33 Repealed.

74:29:07:02. Minimizing of adverse impacts. To minimize the adverse impacts of a mining operation, the following must be considered during the mine planning process:

mine operation facilities minimize surface (1) Design of to disturbances:

(2) Construction of mine facilities so that affected lands are cleared in small sections or increments to match the needs of mine production:

(3) Visual screening of affected lands, including pits, dumps, impoundments, process facilities, buildings, and equipment;
 (4) Design, construction, and location of mine facilities to minimize

impacts to surface water and groundwater;

(5) Control of access;

(6) Preventive measures to minimize harmful impacts to wildlife;

(7) Location of waste dumps, spoil piles, and topsoil stockpiles to facilitate implementation of reclamation and to minimize environmental impacts;

(8) Minimizing the production of mine waste and spoil;(9) Design and location of facilities so they are compatible with surrounding land uses; and

(10) Integration of mine operations planning with the reclamation plan.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-45.

74:29:07:03. Grading and backfilling -- Necessity. Grading, backfilling, and other topographic reconstruction methods must be included in the reclamation plan to achieve visually and functionally compatible contours.

Backfilling is not required if the applicant can demonstrate that it is economically or physically infeasible. In determining if backfilling is required or the extent to which it is required, the board shall consider the following factors:

Public safety and welfare;

(2) Technical and economic feasibility:

(3) Surface and mineral ownership;

(4) Land use requirements; (5) Pollution potential; and

(6) Mineral resource values.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81.
Law Implemented: SDCL 45-6B-7, 45-6B-45.

74:29:07:04. Grading and backfilling -- Criteria. The following general criteria apply to all grading, backfilling, or other topographic reconstruction methods:

- (1) All reclaimed slopes and slope combinations must meet the following requirements:
- (a) Be visually and functionally compatible with the configuration of the surrounding area;

(b) Be suitable for the postmining land use;

(c) Be structurally stable; and

- (d) For fill slopes or other slopes composed of unconsolidated material, not exceed the angle of repose;
- (2) All grading, backfilling, and topographic reconstruction control erosion and sedimentation, protect areas outside the affected land from slides or other damage, and minimize the need for long-term maintenance. Erosion control measures must be implemented during all phases of construction, operation, reclamation, and closure. Detailed plans indicating dimensions, location, spacing, and design of erosion control techniques are required;
- (3) All grading, backfilling, and topographic reconstruction must be completed as soon as feasible after mining ceases. The operator shall establish reasonable timetables consistent with good mining and reclamation practices;
- (4) Depressions for the accumulation of water are not allowed unless they are consistent with the approved postmining land use;

- (5) Original drainage must be preserved as much as possible. Alternative drainage may be approved by the board if it is functionally compatible with and complements the prevailing hydrologic balance of the surrounding area;
- (6) When highwall reduction or elimination is not proposed, the applicant must provide justification demonstrating that such reduction or elimination is impossible, impractical, or aesthetically undesirable. If they are not eliminated, all highwalls must be stabilized; and
- (7) Landforms created as the result of grading, backfilling, or topographic reconstruction of the affected land must blend in with and complement the visual continuity of the surrounding area. Mitigation techniques such as land shaping, rock sculpting, or visual screening may be used to minimize negative visual impacts.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-68-81.

Law Implemented: SDCL 45-6B-37, 45-6B-45.

74:29:07:05. Disposal of refuse. All refuse from the mining operation, including garbage and rubbish, must be disposed of in an approved landfill or may be disposed of on-site if disposal complies with the South Dakota solid waste regulations in article 74:27. Acid-forming or toxin-producing materials that have been mined must be handled and disposed of in a manner that will control unsightliness and protect the hydrologic system from pollution. All hazardous wastes must be handled in accordance with South Dakota hazardous waste regulations in article 74:28.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-45, 46-6B-83.

Cross-References: Solid waste, art 74:27; Hazardous waste, art 74:28.

74:29:07:06. Revegetation. Revegetation must meet the following general requirements:

- (1) Vegetative species and composition must be appropriate for the postmining land use. The species of vegetation to be used must be described in the reclamation plan, indicating the composition of seed mixtures and plant types and the seeding and planting rates per acre. Vegetative species and composition must be selected in consultation with the local conservation district, the landowner, and the department of game, fish, and parks if wildlife habitat is included as a postmining land use. Introduced, naturalized, or nonnative plant species may be used only if they are suitable for the postmining land use and are approved by the board;
- (2) The applicant must develop methods and procedures for revegetation which incorporate reference areas, baseline data comparisons, or other procedures to determine postreclamation revegetation success;
- (3) A reference area may serve as a basis for comparatively measuring reclamation success. Reference areas must meet the following requirements:

(a) Be large enough to make comparisons;

(b) Be located in areas where they will not be affected by future

mining while serving their designated use;

- (c) Be managed in a way that will not cause significant changes in the cover, productivity, species diversity, and composition of the vegetation; and
 - (d) Be representative of the postmining land use; and
- (4) Seeding and planting must be done in accordance with accepted agricultural practices. Affected lands shall be seeded during the first normal period of favorable planting conditions after final topsoil preparation, unless an alternative plan is approved. Any rills or gullies that would preclude successful establishment of vegetation or achievement of the postmining land use must be removed or stabilized.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-39, 45-6B-45.

74:29:07:07. Topsoil management. In addition to the requirements of SDCL 45-68-40, topsoil must be managed as follows:

- (1) All salvageable topsoil or other suitable material must be removed from the areas of affected land before the land is disturbed. The board may authorize topsoil to remain on areas where minor disturbances associated with construction and installation activities will occur, such as light-use roads, signs, utility lines, fences, and monitoring stations, provided that the minor disturbances will not adversely affect the soil resource;
- (2) Where long-term disturbances will occur, the board may authorize the temporary distribution of a portion of stockpiled topsoil or other suitable material to enhance stabilization of affected lands during periods of interim reclamation and temporary cessation of operations under the following conditions:
- (a) The topsoil or subsoil capacity and productive capabilities are not diminished by the distribution or can be restored;

(b) The topsoil is protected from erosion; and

- (c) The topsoil will be available for final reclamation;
- (3) The board may require topsoil or other suitable material to be analyzed by the operator prior to replacement to determine if fertilizer or other soil amendments are necessary to establish and sustain the required vegetation;
- (4) Topsoil stockpiles must be marked with legible signs containing letters not less than six inches high in sufficient locations to clearly identify stockpiles. Such signs must be in place from the time stockpiling begins;
- (5) Topsoil or other suitable material shall be distributed as necessary to establish and sustain the required vegetation. The reclamation plan must contain an estimate of topsoil necessary to complete reclamation;

- (6) If excess topsoil is present, the board may approve the use of the excess for reclamation purposes elsewhere;
- (7) Trees, large rocks, and other waste material which may hinder redistribution of topsoil must be separated from the topsoil before stockpiling;
- (8) If the amount of topsoil necessary for reclamation does not exist on the affected land, other suitable material such as subsoil may be used as a topsoil substitute if it can be demonstrated that the material is capable of establishing and sustaining the required vegetation. If other suitable materials are used in lieu of topsoil, they must be managed in accordance with all topsoil requirements in this section and with the following:

(a) Topsoil substitute stockpiles must be segregated from topsoil stockpiles and signed as substitute topsoil stockpiles; and

(b) In addition to soil analyses, the board may require test plots to determine the suitability of topsoil substitutes as a plant-growing medium.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-40, 45-6B-45.

74:29:07:08. Hydrologic balance — Water quality. To minimize disturbances to the prevailing hydrologic balance of the affected land and adverse effects on the quality and quantity of surface water and groundwater, both during and after the mining operation and during reclamation, the following requirements must be met:

- (1) South Dakota water rights laws and regulations must be complied with;
- (2) South Dakota water quality laws and regulations must be complied with;
- (3) Dredge and fill laws in sections 401 and 404 of the Federal Clean Water Act as they existed on February 1, 1987, must be complied with:
- (4) Temporary or large sedimentation, erosion, or drainage control structures must be removed after affected lands have been vegetated and stabilized, if required by the reclamation plan;
- (5) Permanent diversion structures must be designed not to erode during the passage of the approved design precipitation event; and
- (6) Unchannelized surface water must be diverted around the operation as necessary to minimize pollution and erosion and to protect the operation and downstream water users who have prior water rights.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-41, 45-6B-45.

Cross-References: Water rights statutes and regulations, SDCL 1-40-15 to

- (3) The board may require the operator to analyze spoil material to determine if it will be a source of water pollution. If the spoil material may be such a source the operator must describe proposed procedures for mitigating the condition; and
- (4) All spoil material that is determined to be toxic or acid-forming or that will prevent reestablishment of vegetation on the reclaimed land surface must be properly disposed of during the mining operation unless such materials occur naturally on the land surface.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-43, 45-6B-45.

74:29:07:15. Noxious weeds. The applicant, in consultation with the county weed board, local conservation district, or other appropriate agency, must develop and implement a noxious weed control plan. The plan must be included as part of the reclamation plan.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-68-81.
Law Implemented: SDCL 45-68-43, 45-68-45.

74:29:07:16. Subsidence. The operator must prevent or minimize subsidence that may result from mining activities. Where subsidence cannot be prevented, measures must be taken to minimize damage to and loss of value of property and to minimize hazards to livestock, wildlife, and humans.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-42, 45-6B-45.

74:29:07:17. Underground mines. All underground mine openings and workings or previously existing underground mine workings intercepted by surface mining activities must be sealed during reclamation.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-45.

74:29:07:18. Requirements for specific types of reclamation. The requirements in §§ 74:29:07:19 to 74:29:07:27, inclusive, apply to the specific type or types of reclamation selected pursuant to SDCL 45-68-45. These requirements are to be used to develop, when practicable, a multiple-use reclamation plan.

The individual who develops the reclamation plan must be competent in the management and planning of the specific type or types of reclamation selected.

Source: 14 SDR 111, effective March 3, 1988. General Authority: SDCL 45-6B-81. Law Implemented: SDCL 45-6B-7, 45-6B-25, 45-6B-37 to 45-6B-45.

- 74:29:07:19. Forest planting. The following requirements apply to forest planting as an approved postmining land use:
- (1) Trees, shrubs, and other understory vegetation physiologically suited to the site shall be used to revegetate disturbed areas. Woody species shall be planted at rates which can reasonably be expected to yield mature timber stand density appropriate to the species;
- (2) No slope may exceed the maximum for typical forest usage in the surrounding area;
 - Reclamation is complete when the following conditions are met;
- (a) Sufficient woody species to achieve the expected stand density are viable and vigorous growth can be demonstrated by the operator:
 - (b) The understory vegetative cover is adequate to control erosion;
- (c) The surviving vegetative species composition is appropriate for the postmining land use; and
- (d) If an approved reference area is used, the reclaimed tree stand density must achieve at least 70 percent of that of the reference area five years after planting.

Source: 14 SDR 111, effective March 3, 1988.

General Authority: SDCL 45-6B-81.

Law Implemented: SDCL 45-6B-7, 45-6B-25, 45-6B-37 to 45-6B-45.

74:29:07:20. Rangeland. The following requirements apply to rangeland as an approved postmining land use:

- (1) Affected land must have the capability to support a livestock carrying capacity that is equivalent to that of the surrounding area or to that of the reference area, if used;
- (2) Slopes may not exceed three to one unless the board approves steeper slopes;
- (3) Fencing newly seeded areas is required if it is necessary to preclude livestock or wildlife from impairing establishment of the required vegetation; and
- (4) Reclamation is complete when the reclaimed range is capable of withstanding proper stocking rates for two consecutive years prior to bond release.

Source: 14 SDR 111, effective March 3, 1988.

General Authority: SDCL 45-6B-81.

Law Implemented: SDCL 45-6B-7, 45-6B-25, 45-6B-37 to 45-6B-45.

74:29:07:21. Agricultural or horticultural crops. The following requirements apply to agricultural or horticultural crops as an approved postmining land use:

ADMINISTRATIVE RULES

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

Article	
74:01	General administration, Transferred to Article 74:25.
74:02	Water rights.
74:03	Water pollution control program. Transferred to Articles 74:50 to 74:56, inclusive
74:04	Water hygiene.
74:05	Water development.
74:06	Reserved.
74:07	Environmental financial assurance.
74:08	Administrative fees.
74:09	Procedures Board of minerals and environment.
74:10	Oil and gas conservation.
74:11	Mineral exploration.
74:12 to 74:14	Reserved.
74:15	Litter disposal and control.
74:16 to 74:19	Reserved.
74:20	Conservancy subdistricts, Repealed.
74:21	Water system operators.
74:22	Weather modification.
74:23 and 74:24	4Reserved.
74:25	Environmental protection programs, Repealed.
74:26	Air pollution control program, Transferred to Article 74:36.
74:27	Solid waste.
74:28	Hazardous waste.
74:29	Mined land reclamation.
74:30	Hazardous materials transportation, Repealed.
74:31	Asbestos control program.
74:32	Petroleum inspection and release compensation.
74:33	Petroleum environmental compliance financing.
74:34	Regulated substance discharges.
74:35	Medical waste, Repealed.
74:36	Air pollution control program.
74:37	Air pollution control program fees.
74:38 to 74:49	
74:50	Compliance procedures for water pollution control.
74:51	Surface water quality.
74:52	Surface water discharge permits.
74:53	Water supply and treatment systems.
74:54	Groundwater quality.
74:55	Underground injection control.
74:56	Storage facilities Remediation.
74:57	Concentrated animal feeding operations.

ARTICLE 74:27

SOLID WASTE

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74:27:01 Administration, Repealed.

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<u>74:27</u>		Solid Waste
74:27:02	Collection and processing, Repealed.	
74:27:03	Methods of disposal, Repealed.	
74:27:04	Permits, Repealed.	
74:27:05	Monitoring, Repealed.	
74:27:06	Grants for disposal or processing sites, Repealed.	
74:27:07	Administration.	
74:27:08	Solid waste permit procedures.	
74:27:09	Solid waste permit applications.	
74:27:10	General permits.	
74:27:11	Location standards.	
74:27:12	Facility design and construction.	
74:27:13	Facility operation.	
74:27:14	Solid waste incinerators.	
74:27:15	Closure and postclosure.	
74:27:16	Financial assurance.	
74:27:17	Collection, transportation, storage, and processing.	
74:27:18	Statewide comprehensive solid waste management plan.	
74:27:19	Groundwater monitoring.	
74:27:20	Assessment monitoring.	
74:27:21	Corrective action.	
74:27:22	Collection, transportation, storage, and processing of waste tires.	

CHAPTER 74:27:01

ADMINISTRATION

(Repealed. 17 SDR 8, effective July 26, 1990)

CHAPTER 74:27:02

COLLECTION AND PROCESSING

(Repealed. 17 SDR 8, effective July 26, 1990)

CHAPTER 74:27:03

METHODS OF DISPOSAL

(Repealed, 19 SDR 186, October 9, 1993)

CHAPTER 74:27:04

PERMITS

(Repealed, 17 SDR 8, effective July 26, 1990)

CHAPTER 74:27:05

MONITORING

(Repealed. 17 SDR 8, effective July 26, 1990)

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6.

Law Implemented: SDCL 34A-6-1.14, 34A-6-1.18.

74:27:07:03. Phase-in period for existing facilities. Existing facilities must comply with the provisions of chapters 74:27:03, 74:27:07 to 74:27:09, inclusive, 74:27:11, and 74:27:17. Existing facilities must comply with the applicable provisions of chapters 74:27:12 to 74:27:15, inclusive, and 74:27:19 to 74:27:21, inclusive, on October 9, 1993. Facilities operating on October 9, 1993, must comply with chapter 74:27:16 on April 9, 1994.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6, 34A-6-1.11.

Law Implemented: SDCL 34A-6-1.4, 34A-6-1.14, 34A-6-1.18, 34A-6-1.37.

74:27:07:03.01. Applicability for new facilities. New facilities must comply with the applicable provisions of chapters 74:27:07 to 74:27:21, inclusive.

Source: 19 SDR 186, effective June 10, 1993. General Authority: SDCL 34A-6-1.6, 34A-6-1.11.

Law Implemented: SDCL 34A-6-1.4, 34A-6-1.14, 34A-6-1.18, 34A-6-1.37.

74:27:07:04. No exemptions from federal laws and rules. The provisions of this article do not exempt any facility from compliance with any provisions of federal rules or laws or other requirements by any agency of the United States government.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6.

Law Implemented: SDCL 34A-6-1.34, 34A-6-1.37.

CHAPTER 74:27:08

SOLID WASTE PERMIT PROCEDURES

Section	
74:27:08:01	Permits required Applications.
74:27:08:02	Categories of facilities.
74:27:08:03	Fees.
74:27:08:04	Compliance with state, federal, and local requirements.
74:27:08:05	Presubmission meetings.
74:27:08:05.01	Preapplication Public information meeting.
74:27:08:06	Phase I application for new Type I and IIA facilities.
74:27:08:07	Review of Phase I applications for new Type I and IIA facilities.
74:27:08:08	Effect of rejection of Phase I application.
74:27:08:09	Time to apply for new facilities.
74:27:08:10	Time to apply for permit amendment.
74:27:08:11	Time to apply for permit renewal.
74:27:08:12	Permit application Completeness review.
74:27:08:13	Permit application Technical review.
74:27:08:14	Sccretary's recommendation.
74:27:08:15	Permit conditions.
74:27:08:16	Public notice of secretary's recommendation.
74:27:08:17	Procedure for contesting secretary's recommendation.
74:27:08:18	Hearings,
74:27:08:19	Application amendments prohibited after publication.
	0.4 to 1.5 to 1

74:27:08:20	Continuances.
74:27:08:21	Permit transfers.
74:27:08:22	Notice of violation.
74:27:08:23	Permit suspension, revocation, and reinstatement.

74:27:08:01. Permits required -- Applications. A person may not construct or operate a facility until the person has applied for and obtained a valid permit from the board or secretary. Permits are required before construction begins. Applications shall be made on forms provided by the secretary and shall address the requirements of chapter 74:27:09.

Application forms may be obtained from and completed applications shall be submitted to:

Department of Environment and Natural Resources Division of Environmental Regulation Foss Building 523 East Capitol Avenue Pierre, South Dakota 57501 (605) 773-3153

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6.

Law Implemented: SDCL 34A-6-1.4, 34A-6-1.6, 34A-6-1.8.

Note: Fees, § 74:27:08:03.

74:27:08:02. Categories of facilities. Facilities are divided into the following categories:

(1) Type I facilities are those facilities that receive more than 150,000 tons of solid waste each year;

(2) Type IIA facilities are those facilities that receive between 25,000 tons and 150,000 tons of solid waste each year;

(3) Type IIB facilities are those facilities that receive between 5,000 tons and 24,999 tons of solid waste each year;

(4) Type III facilities are those facilities that receive between 500 tons and 4,999 tons of solid waste each year; and

(5) Type IV facilities are those facilities that receive less than 500 tons of solid waste each year.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6.

Law Implemented: SDCL 34A-6-1.6, 34A-6-1.8, 34A-6-1.16.

74:27:08:03. Fees. Each permit application shall be accompanied by the proper application fee as follows:

Type I Facilities	\$5000
Type IIA and IIB Facilities	
Type III Facilities	
Type IV Facilities No.	

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6.

Law Implemented: SDCL 34A-6-1.6, 34A-6-1.8, 34A-6-1.16.

74:27 Solid Waste

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74:27:11:02
                Wildlife, recreation, aesthetic value, threatened or endangered species.
74:27:11:03
                Floodplains.
74:27:11:04
                Distance to airports.
74:27:11:05
                Distance to residences, other buildings, roads, and parks.
74:27:11:06
                Distance to surface water.
74:27:11:07
                Wetlands.
74:27:11:08
                Gravel pits and quarries.
74:27:11:08.01 Unstable areas.
74:27:11:08.02 Seismic impact zones.
74:27:11:08.03 Fault areas.
74:27:11:09
                Variances.
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74:27:11:01. Applicability. This chapter applies to locations of new MSWLF's and lateral expansions of existing facilities. In addition, the provisions of §§ 74:27:11:03, 74:27:11:04, and 74:27:11:08.01 apply to existing MSWLF's.

Rubble sites, construction debris sites, and restricted use sites shall comply with the applicable provisions of §§ 74:27:11:02, 74:27:11:03, and 74:27:11:05 to 74:27:11:08.01, inclusive.

Nonmunicipal solid waste monofills and other types of facilities not specifically listed shall comply with the provisions of §§ 74:27:11:02 to 74:27:11:08.03, inclusive.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.1.

74:27:11:02. Wildlife, recreation, aesthetic value, threatened or endangered species. The location shall not cause significant adverse effect to wildlife, recreation, aesthetic value of an area, or state and federal threatened or endangered species.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:03. Floodplains. Facilities shall not be located within the boundaries of a 100-year floodplain.

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:04. Distance to airports. Facilities containing putrescible wastes capable of attracting birds may not be located within 5,000 feet of an airport runway end used only by piston-type aircraft, and within 10,000 feet of an airport runway end used by turbojet aircraft. The operator shall inform the federal aviation administration (FAA) in writing if the facility is within five miles of a public airport.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:05. Distance to residences, other buildings, roads, and parks. Facilities may not be located within 1,000 feet of an occupied dwelling, school, hospital, interstate or primary

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highway right-of-way, or public park or recreation area. The location may not pose a potential safety hazard to the public.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:06. Distance to surface water. Facilities containing putrescible waste or other facilities disposing of materials that may pollute surface water may not be located within 1,000 feet of streams, creeks, lakes, reservoirs, or other bodies of water classified for fish life propagation defined by chapters 74:51:01 to 74:51:03, inclusive.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:07. Wetlands. Facilities shall not be located in wetlands.

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:08. Gravel pits and quarries. Only rubble or construction or demolition debris that is free of regulated asbestos-containing waste materials, asphalt-containing materials, petroleum products, or other materials that may pollute groundwater may be disposed of in gravel pits or quarries.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34Λ-6-1.6. Law Implemented: SDCL 34Λ-6-1.6.

74:27:11:08.01. Unstable areas. Facilities may not be located in an unstable area.

Source: 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:08.02. Seismic impact zones. New MSWLFs or lateral expansions of existing MSWLFs may not be located in seismic impact zones.

Source: 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:08.03. Fault areas. New MSWLFs or lateral expansions of existing MSWLFs may not be located within 200 feet of a fault which has had displacement in Holocene time.

Source: 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:11:09. Variances. The board or secretary may grant variances subject to the terms of this section. The owner or operator of a facility shall make any demonstrations necessary to the board or secretary for the purpose of obtaining variances. Demonstrations for variances to location

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:06. All-weather roads. Each facility must be accessible by an all-weather access road and must have all-weather on-site roads suitable for travel by loaded vehicles.

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:07. All-weather fill area. Each facility open to the public must have an all-weather fill area for use during inclement weather.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:08. Posting standards. Each facility shall have a sign posted at the entrance stating the name of the facility, the name and phone number of the person responsible for the site, days and hours of operation, unloading directions, fees, prohibited wastes, and other information as needed.

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:09. Public access control. Public access to the site must be controlled through the use of fences, gates with locks, and similar controls.

Source: 17 SDR 8, effective July 26, 1990. General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:10. Litter control devices. MSWLFs must have litter control devices at the face of the unloading area and around the perimeter of the site. The litter control devices must be of sufficient size to control blowing litter.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:11. Fire control. MSWLFs must have a fire lane at least 25 feet wide around the active disposal area and within the perimeter fence. Other types of solid waste facilities must have fire lanes in conformance with local ordinances, if applicable.

Source: 17 SDR 8, effective July 26, 1990; 19 SDR 186, effective June 10, 1993.

General Authority: SDCL 34A-6-1.6. Law Implemented: SDCL 34A-6-1.6.

74:27:12:12. Buffer zone. MSWLFs must have a buffer zone of at least 100 feet, including the fire lane, within the perimeter fence. Other solid waste facilities must have buffer zones in conformance with local ordinances, if applicable.

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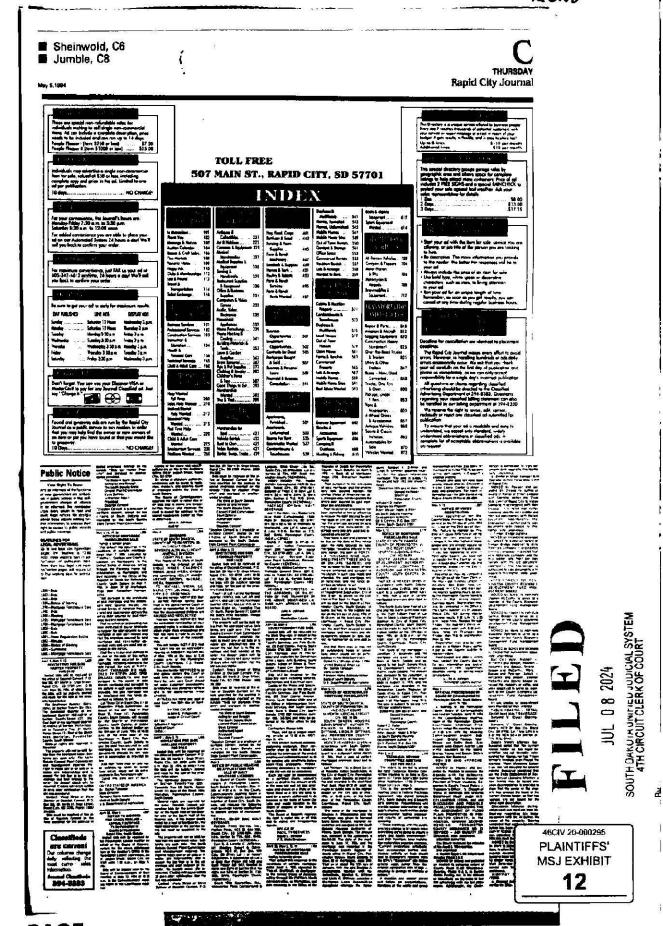
SOUTH DAKUTA UNIFIED JUDICIAL SYSTEM 4TH CIRCUIT CLERK OF COURT

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PLAINTIFFS'
MSJ EXHIBIT

03

STATE 002357



MSJ EXHIBIT

ALERDAVII OE BRANDI D. LYMAN, PJ WESTERN-LOL

COUNTY OF SWITE TWATER	4
	J45
STATE OF WYOMING	Ĩ

Regard D. Lyman, P.F. of lawful age and otter being duly sworn, testifies and states as follows:

- I am a geotechnical engineer and owner of the firm, Western-F.G. with my business. partner, Rob Gerrard, Ph.
- 2) I am a designated expert witness for the Plaintiffs in the litigation. Morse et al.: State of Small Hakota, et al., Case No. 46CTV204R0295, pending in the Circuit Court. Lourth Judicial Circuit. State of South Dakata. Meade County.
- This Affidavit Is a supplement to my Final Expert Report, dated February 2, 2014. including all appendices, Rates Vas. 1111 (8809521-1111 (10809754) and emend into the record in my deposition taken by the State on February 29, 2024.
- 4) In determine if the subsurface conditions of properties added to the class in 2024 were consistent with areas we previously investigated in the subdivision, geotechnical drilling and sampling was conducted May 16th-12th, 2024. Drilling and sampling were performed by Agron Swan & Associates under direction of Mike Reed. PC) a professional geologist employed by Western-FGI. The drilling program, drilling and sampling, and general. operations were directed by me. The borehole locations were selected fundomly to ensure that conditions encountered were statistically valid. Sampling was conducted at intervals from just heneath the topsoil to where the undisturbed hedrock was verified at each location. Logs at the conditions found during drilling are attached to this affidavill
- 5) Samples retrieved during field operations were scaled in nirtight bags, marked, and then transported to our testing lab in Rock Springs, WY. There, samples collected during the field investigation were subjected to testing to determine the engineering properties of the

materials encountered. Tests included particle size analysis. Atterberg I imits, in-situ moisture content, gypsum content, maximum dry density testing, and in-situ moist and dry density. The results of this supplemental testing are attached to this affidavit. Please see theres till mittusto, 1931b. 1933a, 19322, 19324, 19326-19327, 19329-19331. 19333, 19335, 19357-19389, 19361, 19361, 19363-19367-19406, 19410, 19412-pitached hereto as Establic J.

- (a) I th imprecial is readily identifiable by its mixed appearance and is not layered as natural weathered materials and bedrock are. Pictures of the samples were taken after retrieval.

 Plante see Butes IIII 1011 [168-1718]. 17183-17185. 17187-17193. 17195. 17197-1730.

 17210-17225. 17227-17236 attached bereticus Exhibit B.
- Substitute conditions found during the field sampling and testing and laboratory testing show that the conditions and materials cocountered are consistent with the substitute conditions and materials that have been previously found at Hideavay Hills. The substitute consists of a limited area of undisturbed bedrock composed of the Spearfish and Sundance I ornations and variable amounts of poorly compacted. Fine-grained soil used as backfill for the surface mining operation previously performed by the State of South Dakota. The [51] material varies in quisture content, and has a wide range of gypsiem content that was incorporated into the fill. Gypsium content of the [51] material ranges from \$.6% to \$5.6% by volume. As with the fill material previously tested, this high gypsium content will result in solume loss of the fill section which will in turn lead to uncontrolled differential sculences of the fill section. Floure see Bates IIII 1911/9365 and IIII 1911/9365 and clothed here to us Eclubia. I

- In-situ density testing revealed that the IIII section is poorly compacted. In-situ density ranged from 82% to 8% of the laboratory maximum dry density (MDD) values. It is my opinion that density values should be at least 90% of the laboratory MDD values for mon-structured areas and of least 95% of the laboratory MDD values for structured areas to prevent differential sentencent of the fill section. These results are shown in Biggs HB = 000000000 analytical hereto as Exhibit .]
- Vi In-site moistate testing found that the fill materials very considerably in moistant contents at random locations and depths. This variability is mostly contributable to surface dialitige being allowed to enter the subgrade from the findate of surface drainage systems caused by settlement of the subgrade. This settlement is consistent with differential settlement of the subgrade from dissolution of gypsion and consolidation of fill materials found beneath the subdivision. Several of the samples were found to be in the plastic and liquid consistencies of the fine-granted fill materials, which caused them to be inherently unstable. These results are consistent with conditions found in prior investigations and testing. These maisture test results are found in flags (IIII 1991) or quehod hereou as Exhibit A
- 10) Mitterials such as metal, glass, would, and charcoal were found in two borelastes. 24-BH-X9A and 24-BH-X15. This material appears to be trash that was incorporated into the little used to backfill the surface mine. Placing trash in fill leads to improper compaction and as these materials decay and disintegrate there is an associated loss of volume. General engineering practice is no not allow trash or organic materials to be used as fill. Because the two boreholes where these insterials were found are relatively distant from each other, there is a high probabitity that trush was boried at other locations in the fill section.

- Willia addition to the geotechnical work, Rob Gerrard, Pf., who is my business partner and the other Principal Lagineer at Western-Et al conducted photo surveys of the general conditions of Hideaway Hills and Norshdale Subdivisions May 15th-May 17th, 2024. The photo survey indicates that surface infrastructure and general surface grading is in worse condition at Hideaway I tills than Northdale despite being several years newer. Company Hideaway Hills Pictures, Butes No. 1111 00011834, 1786,1804, 1802–1803, 1811, 1801–1804, 1817, and 1824, with Northdale Pictures, Butes Nos. 1111-0017777, 0017791, 0017791, 0017791, 1802, 0017819 anached between as Exhibits C. This is consistent with laster degradation of this infrastructure and grading occurring due to the problematic subsorface conditions we have encountered at Hideaway Hills.
- 12) Rish Cerrand, P.F., and geologist Nick Anderson also took photo surveys of a number of homes to Oldesway Bills Bront 2021 through 2024. The photos show expansion of the mine collapse site, areas of collapse inside the mine, and roads and homes in the subdivision with varying indicators of cracking and scatternent. This is consistent with inspections that we have performed in the subdivision. Photos six Bates Vin. 11H. 1000(15), 2401-2418, 4836, 20019–4831-8159-8341-8357, 20131, 17357,4698, 4706-4709, 8187-17428, 17359, 17606, 7573, attached hereto to Exhibit 19.
- 13) The findings of the supplemental testing that we performed in 2024 are consistent with the findings from the work we have previously completed at the subdivision. The inudequate compacting and incorporation of large amounts of pulserized gypsom into the fitt have left the fill section prone to differential settlement activated by the infiltration of outer into the material. Settlement of the fill is inherent of the fill section itself, and has

occurred and will commute to occur regardless of land use or occupancy by structures or infrastructure.

FURTHER AFFIANT SAYETH NOT

Brandt D. Lyman, P.E.

On this Applay of June 2024, Brendt D. Lyman, P.E., of lawful age and lawing been doly sworn, appeared before me and made himself known to me by production of his Driver's License issued by the State of Wyoming. Brandt D. Lyman executed the above a finegoing Affidavit in my prosence.

Notary Public

My Commission Expires Jub. 27, 2005

[SEAL]

CAPILA VEESSANT - INCOME? PLUÇUC County of Basis of Wyconery Distriction Wyconery My Commission Explorer February 97, 1920.

EXHIBIT A

File Produced Natively

HH_0019319



ÇUENÎ:	Fax Requestrated	TECHANICIAN	MAPR
JOB NUMBER	21-1008	1EST METHOD	ASTM 04318-10
PROJECT:	Hideaway Hill:	SAMPLE NUMBER	BX17
SAMPLE DATE:	5/17/2024	SAMPLED BY	MCB
TEST DATE	3/28/2074	\$OURCE:	9H x125-65 & 10-11.5 ft
SAMPLE DESCRIPTION	Fat Clay, AASHT() = 4	. 7 %	

		Lingayiet (Liver)	it	
Ľan No	20	BL.	77	
Mass of carr	20 99	20 92	20 86	
Can I wet	33 52	34 83	3154	
Can i Bry	29 30	29 92	77 92	1
77 1 1	50.75	59.55	56 89	
tstows N	33	2.4	19	
Blows Required	25-35	264 BQ	15-25	

Flastic climit		
24	ĵΑ	
71.33	21.05	
30 10	32 86	
26 15 J	40.26	
26.49	73,30	

į l	a	54	
P.I	•	26	

Classification	CH
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^{*}Use linear or logarithmic transfers projection with ϵ = 25 to calculate liquid limit*

File Produced Natively



EUUNI	For Portschild	FECHNICIAN.	MPR
IDS NUMBER	27-1008	TEST METHOD:	A5TM 04318-10
FROJECT:	Hideaway Hills	SAMPLE NUMBER.	BX13
SAMPLE DATE:	5/17/2024	SAMPET DIBY	MPR
TEST DATE:	5/28/2024	SOURCE	BH X13 2 3 5 % 5-6 5 H
SAMPLE DESCRIPTION:	Lean Clay, AASHTO : A-7-6		

Ligaid	Limit

Can No Massy of can Can + wet Can + dry P-M Blows N

illows Regulied

x7 22 15 J1 19 21.16 21.06 35.69 13.41 34 90 31 57 29.85 30.73 39.70 40 9I 43 09 28 75 18 25-35 20-30 15.25

Plaste there

ħ:	X5
2U B7	21.29
30 28	<u> </u>
29,42	29 55
2168	2158

LL :	41
PI =	29

Classificacion	Į.	CL
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[&]quot;idse linear or logarithmic probable equation with \$ = 25 to calculate liquid limit"

File Produced Natively

HH_0019320



CLIENT	Fox Ruthchild	TECHNICIAN:	MPR.
HJBMUNBUL	20 1008	tęsi mijihop.	ASTM 04318-10
PROJECT.	Hideaway Hill?	SAMPLE NUMBER:	BX14A
SAMPLE DATE:	5/17/2024	SAMPLED BY:	MPE
TEST DATE	5/28/2024	SCHIRCE	B# X14 10-11 5 ft
SAMPLE	SAR, AASHTO - A.4		•
DESCRIPTION	ì		

		Liqued Lim	11	
čan No.	30	94	26	1
Mass of can	21 04	20.80	20 72	1
Can - wet	32.09	31.94	35 30	
Can i drv 📗	29.51	29 26	81 72	
_ጉ ለ፤	30.41	\$1.65	58.54	١
Elows N	71,5	2 Ä	17	
Blows Regulated	75-35	20-30	15 25	1

Plastic Limii		
Ł	Ė	
20 86	21 a (i	
30 16 ·	\$3 10	
28 32	30.22	
24 62	74.75	

Ç (). =	1 31
Φį	7

	*
Classification	ML

The summer or inguishment remaind equation with $\epsilon \sim 25$ to delicate bound hard '

File Produced Natively

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ELIENT.	Fox Mothchild	TECHNICIAN:	MPR
JOB NUMBER:	21 1906	TEST METHOD.	ASTM 0/4918-10
የ ልዕዚረች:	Hideaway XIIIs	SAMPLE NUMBER.	Hx14
SAMPLE DATE	5/17/7924	SAMPLED BY:	MPR
TEST DATE.	5/78/2024	SDURLE	BH #14 20-21 5 ft
SAMPLE OFSCRIPTION.	Lewn Chiy, AASH7Q =	A-7 6	·

	Liquid Linin			
Çən Np.	£	G	k3	
Mass of care	21.06	20.65	71 73	
Can • wet	32 11	45 09	32 67	
Can - tiny	28.84	30.52	28.96	
ጉ ሌ	42 08	46.37	48.07	
Blows N	28	22	15	
Blows Beusinea	25.35	ንቤ- ነቦ	15.25	

Plastic Limit		
N.L	ŢŢ.	
20 84	20 20	
27,16	30 6b	
25.85	28.64	
25,79	25.54	

[[, =	at.
P(:	18

(Passibleation	CL

The linear or logarithmic frenchine equation with τ = 25 for algulare Equidition ()

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Rock Springs: WY 82902
307-362-5180
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EUENT.	Fax Rometuld	TECHNICIAN	NAS-R
ЮВ МИМВЕЯ.	21-10×18	TEST METHOD	ASTM 04318-10
₹ROJECT:	Hidgaway Hills	SAMPLE NUMBER	@X15
SAMPLE DATE:	9/17/2024	SAMPLED BY:	MPR
TEST DATE	5/78/2074	SOURCE.	₽H X15 10 11 5 h
SAMPLE DESCRIPTION	Fat Clay, AASHT() - A	76	

1111	in it	1 1-	- ·
Late	ши	LI	1111

Lan No
Mass of earl
Can I wet
Can v dry
÷M
втожч. М
Blows Priguited

32	(6)	MA	
21 19	20.97	21.04	
31 53	30.65	51 39	
28 00	26 99	27 (9	1
51.45	60.75	66 lb	
35	25	15	
75 35	20-30	15.25	•

Plastic Limit

χe	5A
21.45	20.78
33.04	30 86
90 SD	28.70
1B 11	27.15

L[=	60	
Ψ1.	33	

(C)	
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"Use logar of ligarithmic trending equation with a 25 to calculate tipad limit"

File Produced Natively

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COENT:	Fax Anthchild	TECHNICIAN:	MAP R
JÓB NUMBER.	71 SBOR	PEST METHOD.	ASIM D4318-16
PROJECT	Hideaway Hols	SAMPLE NUMBER.	BX15A
AMPLE DATE.	5/17/7074	SAMPLED BY:	MPR
TEST DATE.	5/28/2024	5OURCE:	BH ×15 2 3.5 ft
SAMPLE DESCRIPTION:	Lean Clay with Sand.	AASHTO = A-6	

10_	Liquid Limit			
Çan No	ΥŅ	ML	4	
Mass of can	2174	20.89	70 66	
Can - wet	43 37	29:16	34 6Ü	
Can - dry	30.50	27 11	31 ()4	
'aM	31 07	32 92	24 33	
Blows N	34	25	17	
History Renowed	25.35	20.30	15.35	

PASSEIC LATTIT		
68.	k4	
20.73	20 49	
51.97	51 74	
30.10	51 66	
1970	15.51	

	7 4
μL:	3.3
건 =	13

Classification	CL

[&]quot;Use linear or logarithmic frendline equation with ϵ - 25 to calculate liquid him?"

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CITENT:	Fox Rathenild	TECHNICAN	(wurft
JOR NUMBER:	71-1008	IEST METHOD.	ASTM 04318-10
PROJECT	Hideaway Hills	SAMPLE NUMBER	875
SAMPLE DATE.	5/17/2024	SAMPLED BY	MPR
IEST DATE:	5/29/2024	SOURCE	BH 455-65-8-10-13-5
SAMPLE	Sandy Lean Clay AAs	ISTD = A 6	
DESCRIPTION			

	0	Liguid Lithit	
Ľaiv™o.	GÜ	6	18
Mags of can	20,79	20 88	20 B1
Ľan • w⊬1	32,41	3D 71	3149
Can - dry	29.19	77.99	28 25

FM 38 37 39 55 43.56 Blows tv 31 76 16 Blows Regured 25 25 20-39 15 25

Plastic Limit		
પ ારી	7	
20 99	21.52	
27:17	28 61	
26 27	27 51	
16 14	i? 6a	

LL ·	(40
Pi =	23

Classification	CL
	11-11-11

Horspear or logarithmic fregulation equation with \$ - 25 to calculate liquid libris

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Rock Springs, WY 32402

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CLIEMY	Fox Pothshild	TECHNICIAN	MPB
JOB NUMBER:	21 100%	TEST METHOD	01-81EPC MISA
PP.(3)(CT	Hideaway Hills	SAMPLE NUMBER]HK6
SAMPLE DATE	5/17/2024	SAMPLED 6Y	MPA
rest date	5/78/2074	SQURCE	BH x6 20-21 5 N
SAMPLE DESCRIPTION:	Fat Clay with Sand, A	A5970 - A 7 6	• •

15.25

Ligard Limit

Can NG Mass of can Can – wet Can + dry >M

eM Blows N

Blows Recurred

	L. Ju. Li.	56 19 (6
JĒ	28	33
2183	20 61	20.87
32 41	32.62	32 53
28.86	28.62	28.9 5
50.40	51.25	55 00
33	29	15
The second second		

20,30

15 1 13.48 72.66 71.03 34.00 19.55 31.78 24.25 24.28

Plastic Limit

LL:	52
P1 =	28

25-35

	989
Classification) CH

"Usy imput or oppositions transfer equation with ϵ = 25 to , alcoholo input mode."

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ChiemT:	Fox Rothchild	TECHNICIAN:	MPR
JOB NUMBER.	21-1908	TEST METHOD.	A51M D4318-10
PROJECT:	Hideaway milis	SAMPLE NUMBER:	BX6A
SAMPLE DATE.	5/17/7024	SAMPLED BY.	MPR
TEST DATE.	5/26/2024	SOURCE	BH ×6 5-6 5 fr
SAMPLE	Lean Esty with Sand, AASHREL - A-7-6		
DESCRIPTION.	20 Head 1874 Serious Sc 94		

	Lequid Limit			
Can No	4Д	X7	ΤĆ	
Mass of san	20.75	20 89	20.77	
Can - wet	30 07	35.73	32.75	
Can - dry	27.31	10.94	29.43	
M	4197	42 59	44.13	
Blows N	3.1	78	17	
Blows Reagned	35-35	20.30	15-25	

Mastic Limit		
ъ́А	28	
77.06	71.25	
28.63	23.37	
27.25	29.46	
22 21	27.00	

[, <u>],</u> =	43
Pi =	51

	•	
Classification	ľ	TI.
, −103311F0Fb0.1		Test line

Tuse linear or logarithmic (rendline equation with κ = 25 to calculate liquid limit *

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CLIENT:	Fox Rothchild	TECHNICIAN.	MPB
JOS NUMBER:	21-1008	TEST METHOD:	A5TM 04318-10
ም ዘረብ፤ ር 7 :	Hideaway Hills	SAMPLE NUMBER.	BKA
SAMPLE DATE:	5/17/2024	SAMPLED BY	MPR.
IĘST DATE,	5/08/2024	SOURCE.	BH X82-3 5 & 5 6 5 N
SAMPLE DESCRIPTION	Silt with Sand, AASH1	τ() = A-4	

NA. Lan No. 13

Mass of can-Can I wet Can + dry Blows N

 $\sim M_{\odot}$

Blows Required

35

मायुक्तयं (१४) म 1L 20 98 21.67 13 82 30.09 33.90 29,13 30 73 27 84 25 14 32.74 33.87 45 19 26 15 **)4 34** 20-10 15.25

Plaster thor:

3.	ι¶
211.79	71 40
28 94	40.30
27 35	19.5£
2431	23,94

1] =	[3a
ri -	ĴГ.

Name and the state of the state	4
Classificacion III	MI

"was linear or logarithmic headling equation with $\epsilon \sim 7^\circ$ to calculate ligarithms".



CLIENT:	Fox Rothchild	TECHNICIAN.	MPR
JOB NUMBER:	71 1008	TEST METHOD.	ASTM D4818-10
PHOJECT:	Hideaway Bills	SAMPLE NUMBER	BX94
AMPLE DATE:	5/17/2024	SAMPLED BY	MAR
IEST DATE.	5/28/2024	SOURCE:	BH X9A 10-11 5 ft.
SAMPLE	Lean Clay with Sand	AASh10) = A-7-6	
DESCRIPTION.	390		

	Liddio Civit			
Cary No.	19	16	ΞĊ	
Mass of can	20 84	21.14	20,77	
Cara - wet	35 52	34 69	34.78	
Can « dey	31 30	50 56	30 11	٦
≅M	414.3.2	43 E8	44.79	
Hlows W	35	21	17	
Glows Reguired	25 35	<i>)</i> () 5()	15.25	_

Plastic winit		
K.7	E	
20 95	71.56	
29.63	31 00	
75 26	29 35	
71 33	J1 16	

LL =	4.1		
P[:	22		

Clara from too			
Classification			

The linear or logarithmic trending equation with $i \in \mathcal{V}_{i}$ in calculate bound from i

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20. _ 00.00_20_20_20			4			
	Fox Rethchild		TECHNIC/AN:			
JOB NUMBER:				ASTM: 0698		
	Britan State Commencer (Commencer Commencer Co		METHOD A,B, DIR C. [A			
SAMPLE NUMBER:	X14 16:18 P			Manual		
SAMPLE DATE:	5/18/2024		SAMPLED BY:	₩15P		
TEST DATE				Borehele 714		
SAMPLE DESCRIPTION:	Red clay fill n	naterial with gypsu	वा			
Mais retained on #4	0	Mass Passing MA	L	Pertuntage		
Sieve (lb)		Sieve (Ib)		Entained:		
volume of Min'd		Weight of		Number of		1
(ft').	0 0933333	Hammer	5.5	htows/layer	25/3	ı
Gs.			<u>Test No.</u>			4
Item:	Ĭ.	2	3	4		
Modd and Base (lb)	리 본준다	0 849	9 389	9.889		
Mold and Base +				2		
Most Soil (Ib)	13.880	14.10%	t3 929	18 959		
Moist Scil (lb)	9 99 t	4 217	3 (345	4 070		
Most (mit Weight						
(In/ft3)	139 /4	136 51	121 20	172 35		
Monstare Can R	47	AB	0	1		
Maisjure Can (g)	0.53	0.8.1	0.86	0.96		
Carry Moist Soil (g)	452	5.02	4.89	5.02		
Can + Dry Seil Ig)	4.05	4 55	A [5	127		
Moisture Content	Automatica .	QA 703				
(%)	17.52	14 5)0	22.56	2.7 64s		
	7/5 0.5*					
Dry Unit Weight						
Compaction (tb/fi3)		110 88	년리 <u>하</u> 면	09-54		

ү⊴imia⊭i (lp/fr³r — 115.3 — Optirovni Mossture Consent (%). — 37.0

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Weat 75.01 20.49 77.11 26.84

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Note: Input D695 or D1557

Note: Input Upper Case Letter Cely in Method Section 6 et A. B. or F.:

PC) 80x 1478

Rock Springs, WY 82902

307 362 5180

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CLIENT:	Fox Restactive		TECHNICIAN:	MPR				
ICB NUMBER:	PE-1008		ASTM:	D698				
PKQJĘC1:	Нісівом аў Ні	ils:	METHOC A.B. OR C	A				
SAMPLE NUMBEH:	X6 6 8 ft		HAMMER TYPE:	Manual				
SAMPLE DATE	5/17/2024	(SAMPLED BY:	MPR				
TEST DATE:		_		Borehole x6				
SAMPLE DESCRIPTION:	19e/8town c	lay fill material with	i gypsoni					
। Mass retained on Mål	J	Adaps Passing 84	1	Percentage				
Sieve IIIv).		Sieve IIb)	V-0	Retained				
TOTAL TO TOTAL		4" P4 (1162		IN IN IN IN				
Valume of Mold		Weight of	====	Number of				
(11%)	D D33333	Hastinted	5.5	blows/layer.	25/3			
115=	3 B	•	Lett.No.	-	ioi kati			
llem.	1	2	3	4				
Mold and Base (fb)	9.889	9 989	9 889	9.889				
Mold and Base -			2 100 No	600 - 200, 200, 200, 200, 200, 200, 200,				
Moist Soil (fb)	13.53B	19 715	14.013	13.961				
Most Sail (lb)	3 649	5. 82 6	4.124	3 912				
Most Unit Weight								
06/4/31	109,47	J14 76	123,73	117_36				
Moisture Cari P	äð	#7	#1	ĒĦ				
Moisture Can (g)	ð óð	0.65	n.)4	a (a				
Can - Moist Soil (g)	4.27	4.3 4	471	4.51				
Առո - Dry Seil (<u>g</u>	5 43	4 01	à 6 8	4 15 Z				
Maisture Content								
(<i>i</i> 2)	10,41	17 95	21 AS	३७ स्म				
	200 See	50,50						
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Compaction (Ib/ht3)-	99 [4]	101 62	101 57	91 97				

yarmax) //b//f*): 109 7 Outimum Maisture Coviténi (%) 17 1	yaimay) //b/At/5:	103 7	Optimum Maisture Content (%)	17.1
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PO 80x 1478 Hork Springs, WY 82902 307-362-5180 www.westernegi.com



Aysar (1.14 25.61 25.46 32.48

PO Box 1478 Keck Springs, WY 82902 307-367-5180 www.westernegraphs



Note: Input DR98 or E1552 Note: Input Upper Case Letter Doly in Melhan/ Sections (I.E. A. B. 1014):

PU 90x 1478

Rock Springs WY 87902

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www.westernegicons



CLIENT :	Les Ruthchel	1	TECHNIC:AN:	MPR						
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	Hideoway Hi	ilş.	METHOD ALB, OR C	A						
THE ARREST OF THE WORK	X94 15-15 H		HAMMAER TYPE	Warrual						
SAMPLE DATE.	5/17/2024		SAMPLED BY:	MÉR						
TEST DATE:	5/73/2074	71 4	SOURCE	Borehole X9A						
SAMP(†) DESCHIPTION	Heddish Bro	en day till material	with gyp),pri	· • • •						
Mass refailted on Mi Sieve (No)	a	May- Passing Bill Sieve (Ib)	1	Percentage Refamed.						
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: [-}	D 0833833	Hansmer	5.5	blows/layer	25/3					
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items.	1	2	3	4						
Mord and Base (lb)	9.889	9 889	9.889	ት ዝዩት						
Mold and Sase			\$c							
Maist Soil (lb)	13 412	12 777	75.697	25 555						
Most 5o/1 (lb)	3,523	3 883	1 /48	3 á66						
Moist Unit Weight										
186/93)	105 6 9	116.49	112.44	205.58						
Moisture Can #	45	#3	pk.	#1						
Monstore (anig)	051	0.64) D 65	D 55						
Carr + Moist Soil (g)	4 05	4.52	4 36	4.70						
Can + ():y Smilig)	3,57	3.8€	3 47	1 30						
Moisture Coment (5)	CONTRACTOR SANGERS	20 57	11 17	41 94						
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yd(maxi nb/h/fr 97.0 Optowore Monture Content (%): 27.4

PO Box 1478
Hock Springs WY 82902
J07-362-5160
www.westurney.com

J



West 37.54 28.79 M/W 59.64

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Note: Input 0698 at 01997 Note: Input Upger Case Letter Galy in Method Section (vie. A. B. ex C)



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- APPENDIX 190 -

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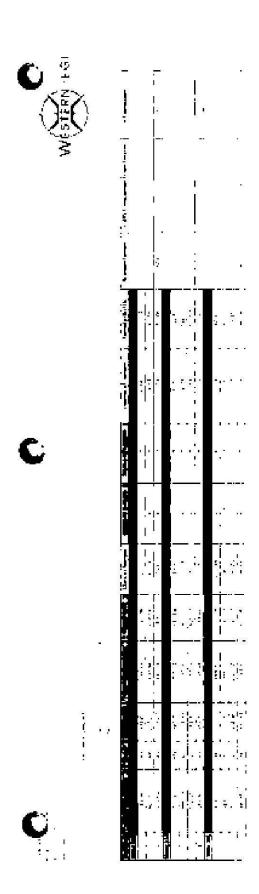
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COFNE	Fox Pothchild							
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BK	Oepth:	Π'n	Mass of Tin	Tin + Wes	Tin + Dry	Molstore %
BH-MI A	235	10	70.687	58 869	49 107	24 83-
RH·X], B	<u>ነ-</u>	J A	20,762	63 668	55.477	24.4%
BH-X1 f	70-115	ለተ	20.793	61,294	57 367	10.7%
86-A1 E	15-16-5	2A	21.29	48 193	46.784	5.5%
: :-		-	49	_		
8H	Depth	fin	Mass of Yin	11n + Wet	Tin + Prys	Mosture %
#H x7 A	2-3-5	27	21 111	59.ī	50,739	20.1%
ын-х/ В	4 5 5	47	/0 83 1	60.13	54.357	17.2+
ьн х2 с	10:11 9	rB	71 159	65-97	60.381	14 7%
BH XZ D	15 15.5	¥9.	71 489	75 67)	67 774	1/1%
	<u>-</u>					
84	Depth	Tin	Mass of Tin	Tin + Wet	Tin + Dry	Moisture %
ВН€Э.А	2-3.5	77	21 224	65 994	55.401	25.8%
0H-) 3 B	565	7	71.527	73.05	64 (32	20.85~
BH X5 C	<u> </u>	78	21 219	/5 167	6-1 659	19.65
	كالناك			'= '	• :	
80	Depth	Tin	Mass of Tire	∏n + Wat	Tin + Dry	Moisture %
BH- X4 A	2.3.3	G	70.876	65 933	56,617	76 IN
Вн.X4 В	5-6 5	1ñ	פרי מכ	66 799	96,1)J	19-5%
B0-34 C	10-11-5	3C	20.784	73 538	66.623	15.1 m
BH-X4 D	t5-1 6 5	4	20 982	67 (B.Z	63 518	13 7 _%
						
BH	Depth	Tin	Mass of Tip	Tin + Wet	Tin + Dry	Moisture %
BH NS A	7-35	ŖĹ	20.934	64.908	56.25	24.5%
511 Y5 B	5 16 5	ሴንል	25.062	59 175	53 (M8	19 3%
BH-K5i	(0.11.5	77	20.868	70 689	fi5.043	12.5%
9H-X5 0	15 LE S	?E	70.816	75.135	67 635	16.5%
						:
ВH	Gepth	Tin	Mass of Tin	Tin + Wet	. Որ + ԸՐγ	Moisture *
вн хь А	2-8 5	Y4	20.923	69 689	6].174	3 1. 7%
вы хь Сойтиве	2 6.5	15	ZO 797	46.€4ñ	44 36T	3.6 5.0
em kg e	5.63	i, j	20.858	63 6 09	59 909	50 3m
₽H-XG C	10,115	Y2	21 09	64 115	55.081	⊒6 6%
8H-X6 D	15 16 5	¥5	70.916	68.65	59 304	24.3%.
B⊶-X6 E	20-71.5	42	20 7 0 0	74 536	64.94	21.7%
Elit XP e	3 5	4	20 6 08	48.927	46.849	2.9%
<u> </u>	-	: 4	OF O	- -		
9H	Depth	Tin	Mass of Tim	To + Wet	Tin + Dry	Moisture %
Ņia X∦ A	2-3-5	K5	23.75B	81 184	70.219	2 D 167*

			r'	1 2 1		i
Bet X7 FI	5-6.5	8A	20.651	66.985	56 995	27 5%
BO X2 C	10-11.5	K4	70.983	75.797	67.46	17.9%
BH- 47 D	15 16.5	19	20.805	73.139	66.384	14.64
BH	Depth	Tin	Mess of Tin	Tin + Wel	Tin + Dity	Moisture 9
Вн 78 Ф	2-75	M.3	24.201	70.147	62.633	P1.91
BH-AR B	5·6.5	3A.	21.015	/0.411	62.375	17.6%
-	Anna and Park State of the Stat	T)	Market .		Traverso av meson	49.334.000 captures in 11.444
BH	Depth	Th	Mass of Tin	Tin + Wet	Tin + Diy	Motstute 9
BH·X5 A	235	74	20.944	66 202	RD5.50	B (63).
Der xà D	1.65	XI	70 757	67.467	65.191	5.1%
BH-x9 Cuttings	1.5	ŀ	27 136	/8 446	74 785	2.0%
			n rýrian-			
84	Depth	Tin	Mass of Tin	Tin + Wet	fla + Dry	Moisture %
A APX-MA	7-35	ŗ	21.525	44 992	39.557	20.4%
611-X9A B	5-6 5	3/0	21 104	63.828	\$1.43	40.94
BH-19A C	14-14 <u>.</u> 5	9.	20,978	72 323	61.863	75.6%
6H-X9A D	15 16.5	WE	20. 9 56	63 072	59.640	6 95.
<u>= </u>			- 14 A	. The same of the	1	
BH	Depth	Tin	Mass of Tin	fin + Wet	. Tin + Dry	Moisture *
A UTX-HB	2-5.5	29	20.803	70.323	66 9B	7.2%
9H-7.30 B	5.6.5	15	22,295	69.156	65.297	90%
				<u>.</u>		
刊什	Depth	Tin	Mass of Tin		. Tin + Dry	Moisture *
BH-X37 A	2-5.5	15	21.234	66 369	53.542	±9.7%
EN MIZE	5-6.5	44	20.63	66 25	S7 16	24.8%
BH X17 F	rv 1L5	D	23 378	71 197	63 16 0	19.25
BH V1217	15 16.5	lā.	21.033	69 506	60 31	25,4%
Bet X17 F	30-514	6	J 1.265	75 709	70 258	10.1%
li(r x f 5 g	25-265	17	20 698	50.036	4B 186	5 7%.
	<u> </u>	<u> </u>	17./1			-
вн	Depth	THa	Mass of tio	fin + Wel	Tin + Ory	Moisture 7
6H # 13 P	2-95	11	23 076	73 237	66 175	15 7 <u>%</u>
WH-x13 B	5-6.5	Н	31 256	66,434	61 477	17 3%
5H-X33 U	10.115	34	71,069	63 524	60 566	75%.
BH-X33 ()	15-16 5	Ğ	20,584	i4.559	61.47	a u%
·					٠	<u> </u>
₿H	Depth	The	Mass of Tin	Tin + Wet	Πn + Dry	Moisture 5
6H-X14 A	2-d 5	YŁ.	70 991	37.805	50 552	24 5%
8H-X14 B	5 5 5	35	20 995	66.938	56 787	28 49.
BH X14 (10-11.5	NU	20.758	73.113	64 6 1 1	19.4%
8H-7.]4 D	15 16 5	7,4	20 964	81.519	68.775	16.8%
BH-X14 E	20-715	ü1	3 1 OH4	99 471	81 306	30 Z%
8H ≯)4 F	25-26 5	K)	20.825	71 14	GO 953	75.44
8H-714 G	\$0-315	77	20 99.7	75.09ā	64.287	25.D%
Ţ		1				
ØН	Depth	Tira	Mass of Tin	Tin - Wet	∏ra + Day!	Mosture *

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BN-X15 A	235	235 GG		66 243	59 153	18.5% 32.4% 24.3%	
BH X15 6 5 5 5 BH X15 C 10 21 5 21		5	21 171	67.18R	35 939		
		21	20.733	65 401	56.67		
AH-X15 D	JS 165	23	20.847	88.145	/1.686	27.4%	
BH-X15 E 20-71 5 X8		Х8	23.51	82.057	73.485	17.7%	
BH X15 F	25-26 5	GA	20.985	66 704	60.645	15.3%	

FO Boy 1479 Fork Springs, WY 2/907 \$07 367 5190 www.westernegi.com

3∓T Course pigms N _m					
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7.0	16	15	S	4.5	E5	1	1	0.75	15 75	13
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BH-XE	3.	5	1	45	85	ī	1	0.75	5.31	5
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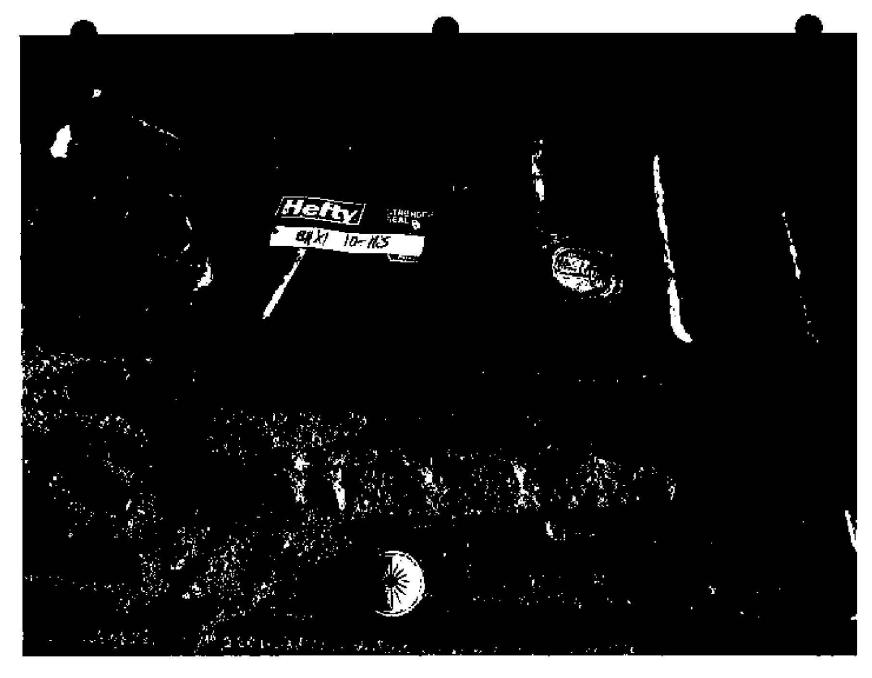
EXHIBIT B



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HH_0017169

















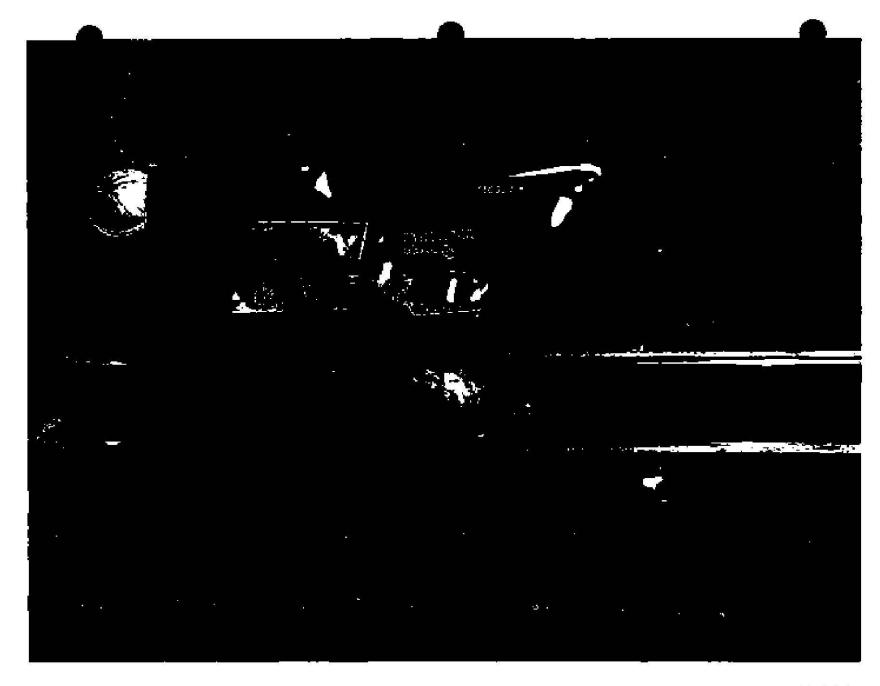
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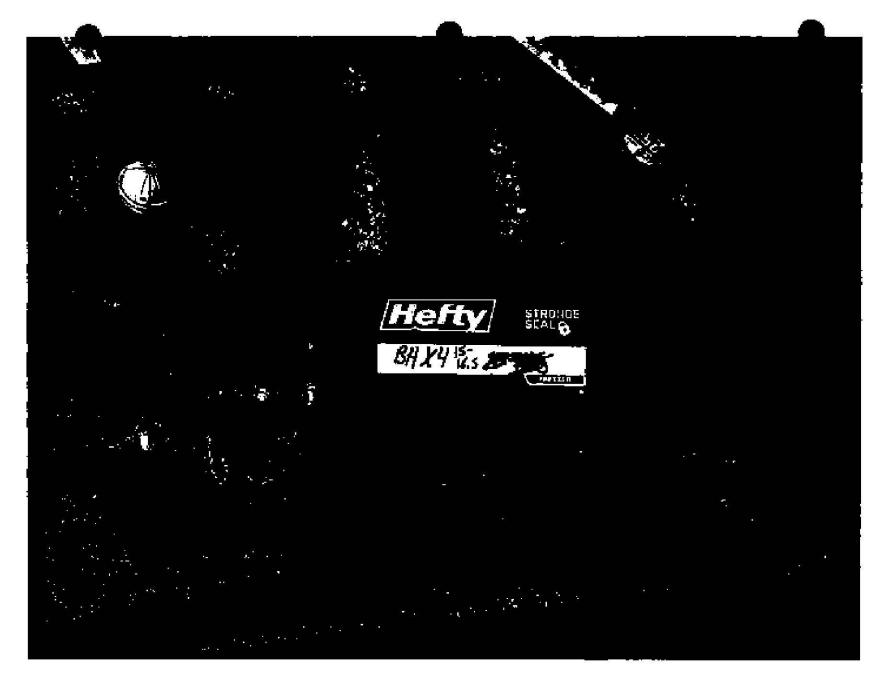
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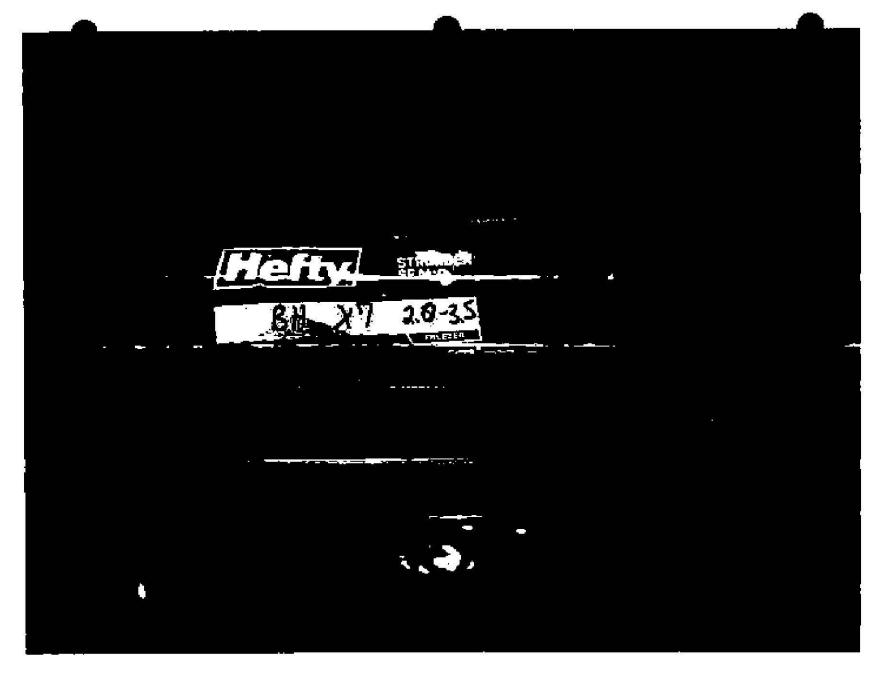




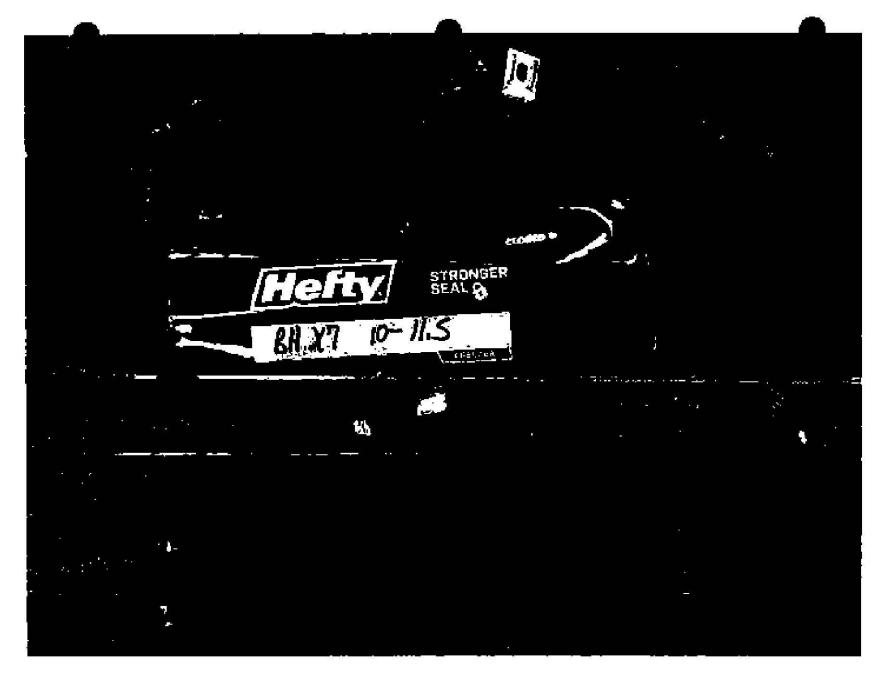




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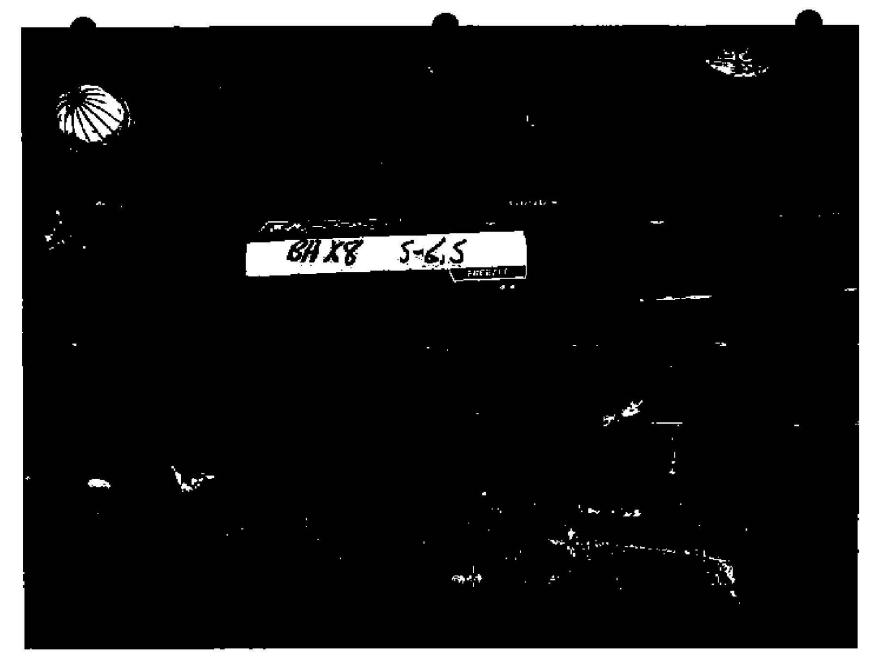










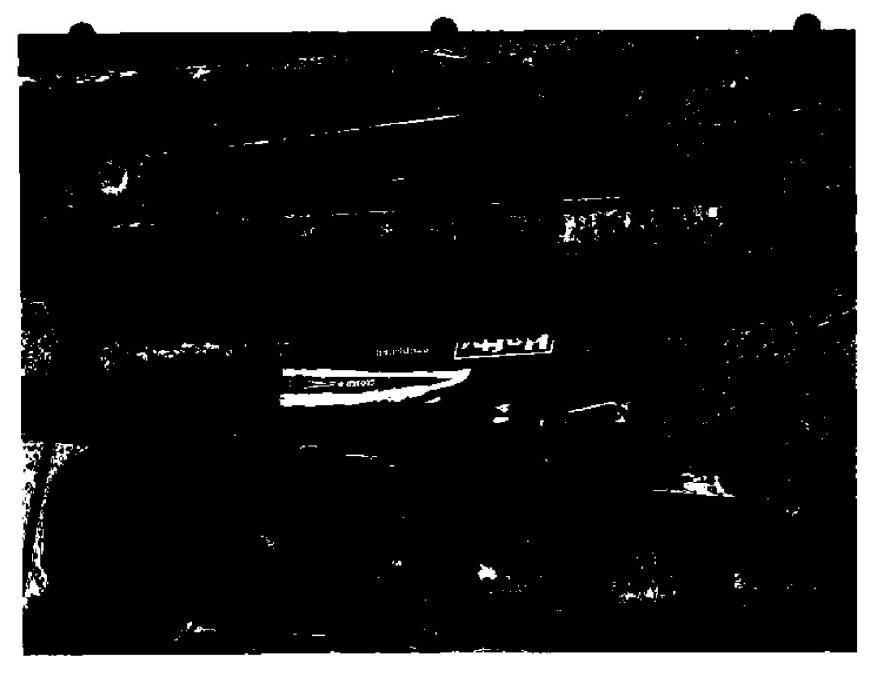


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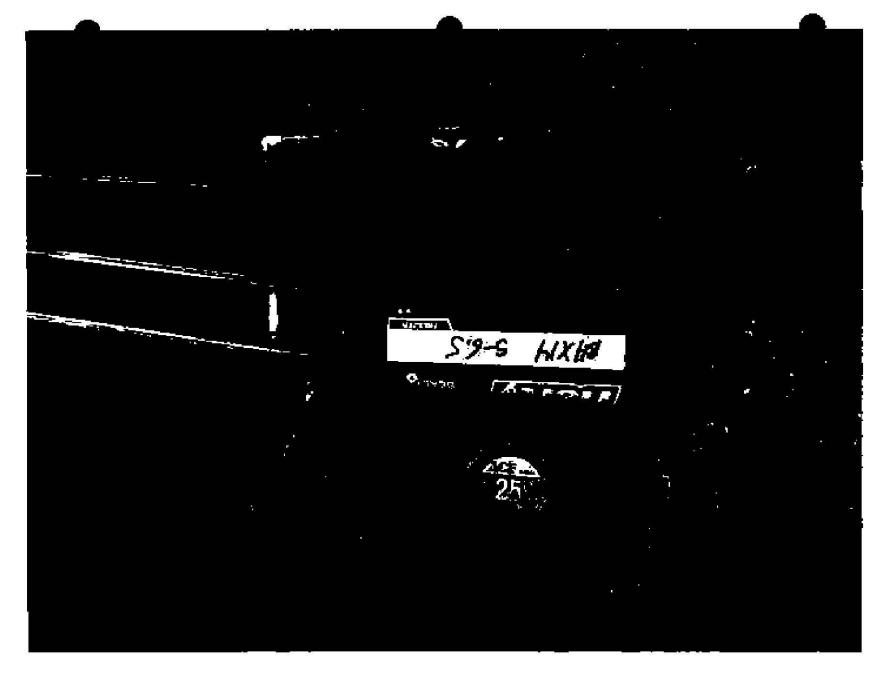






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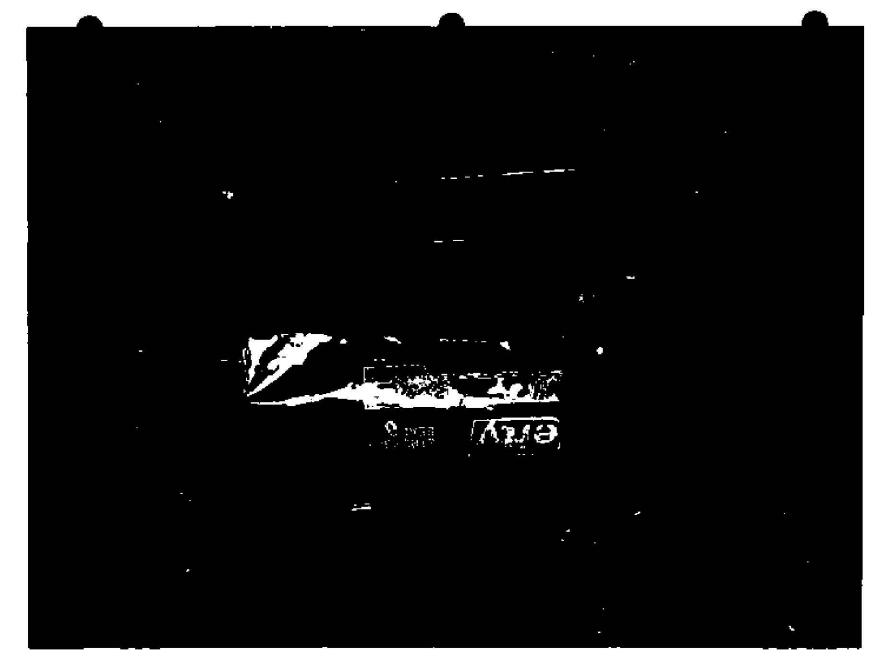
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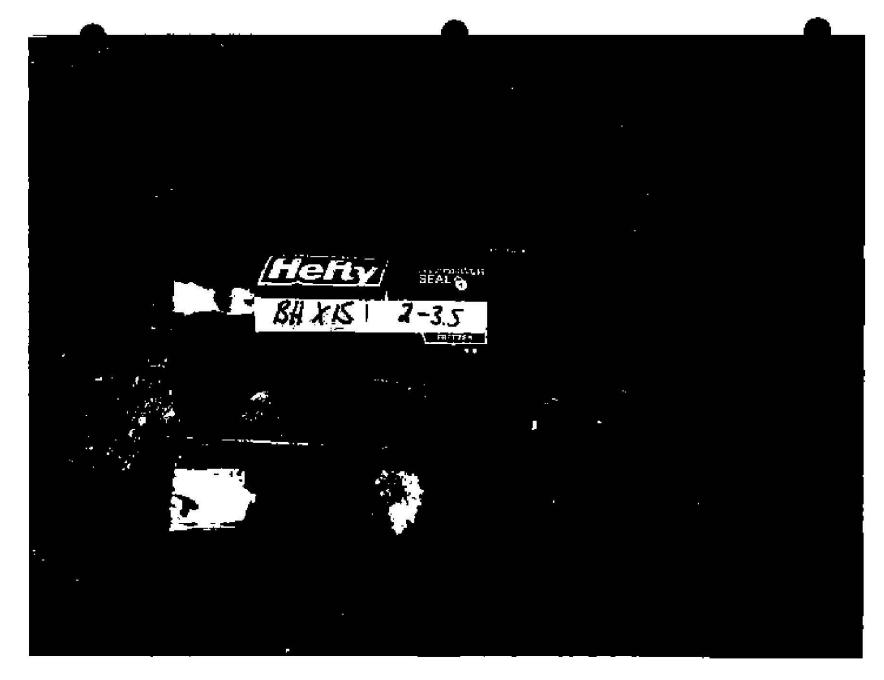




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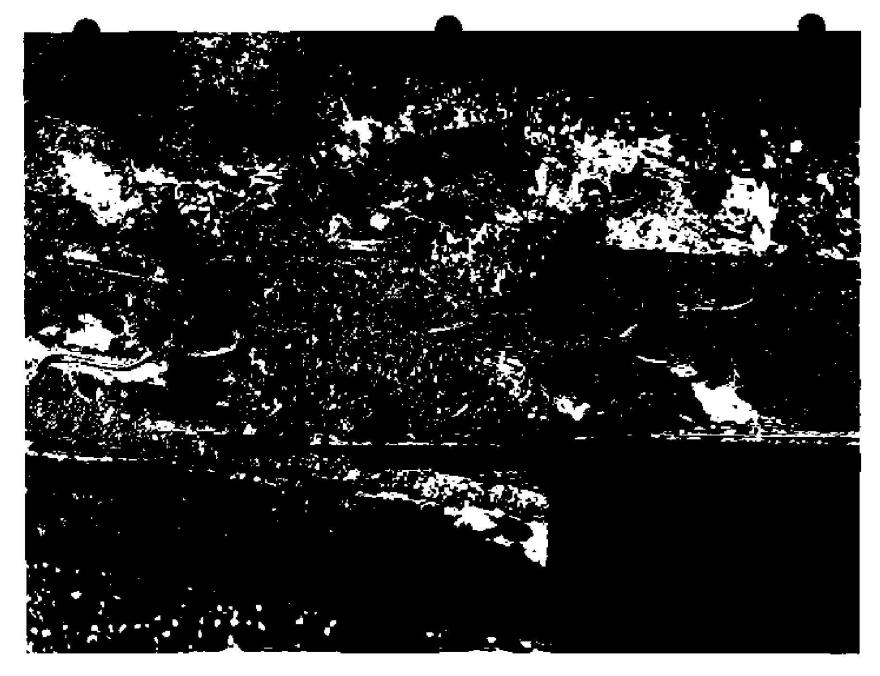


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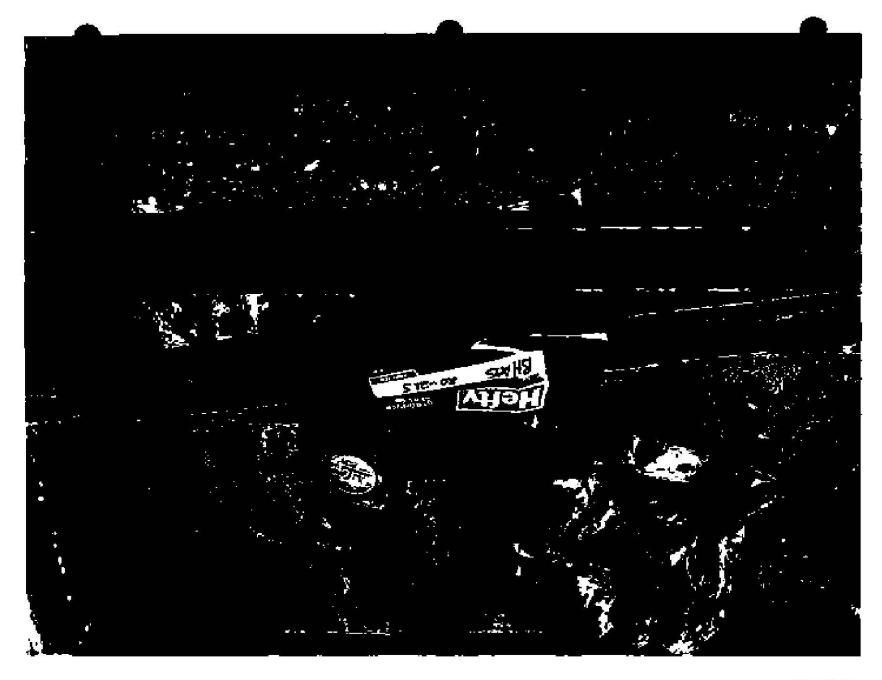


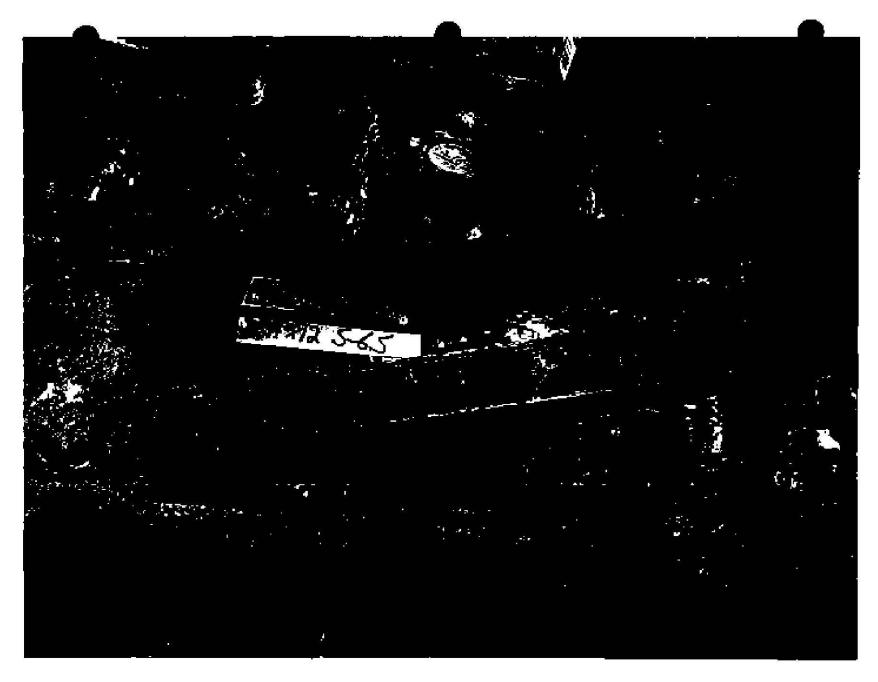
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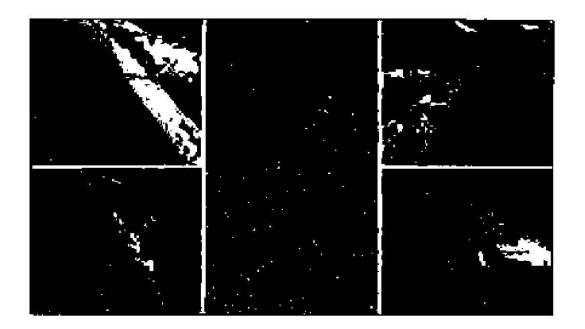


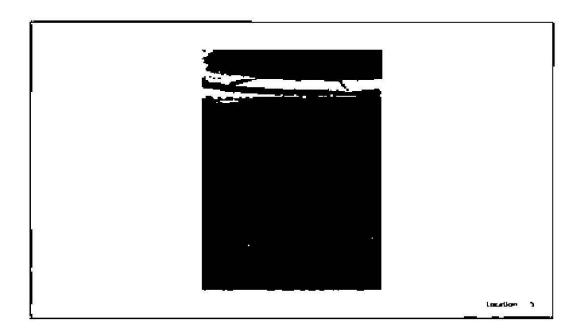
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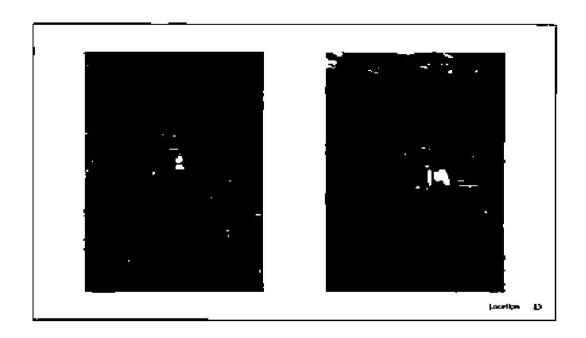


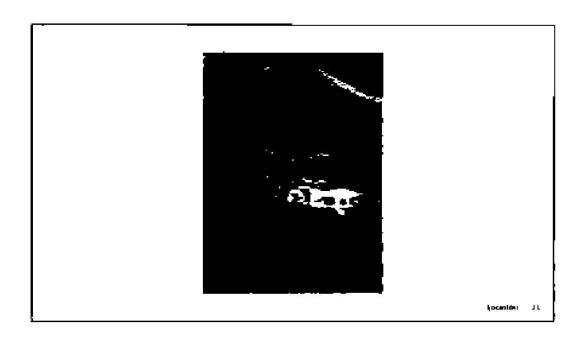


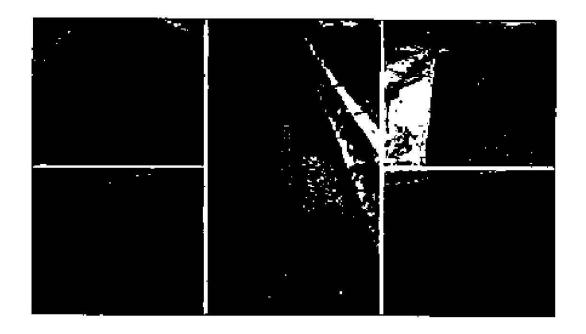
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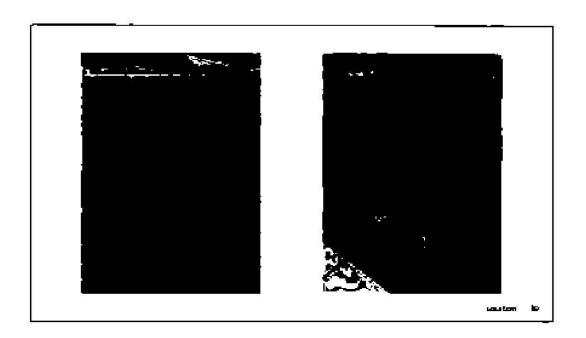


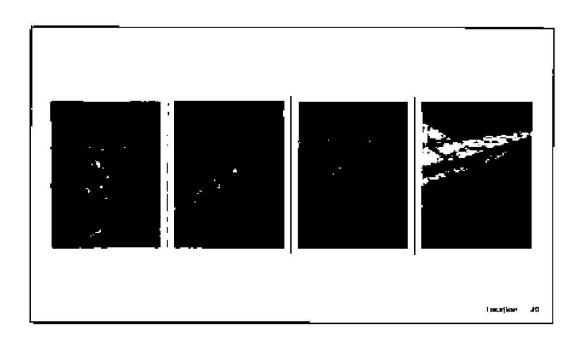


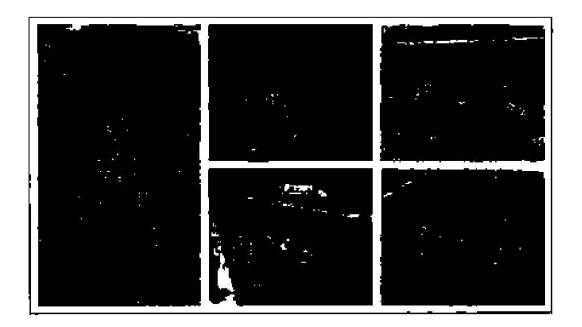


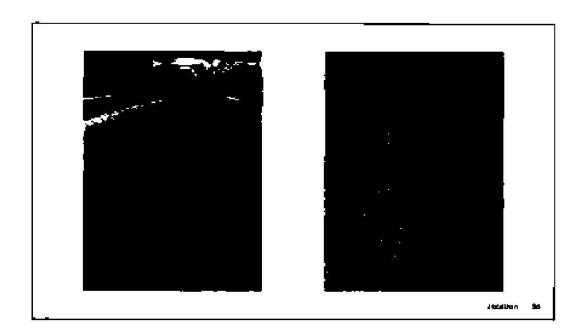


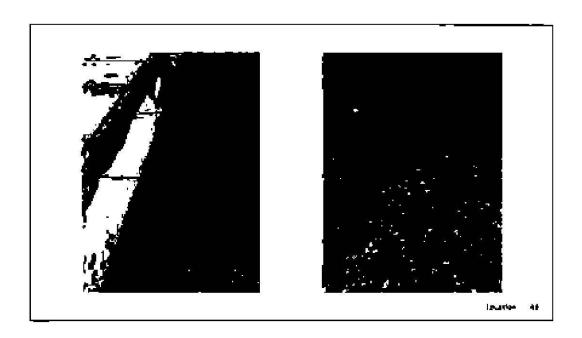


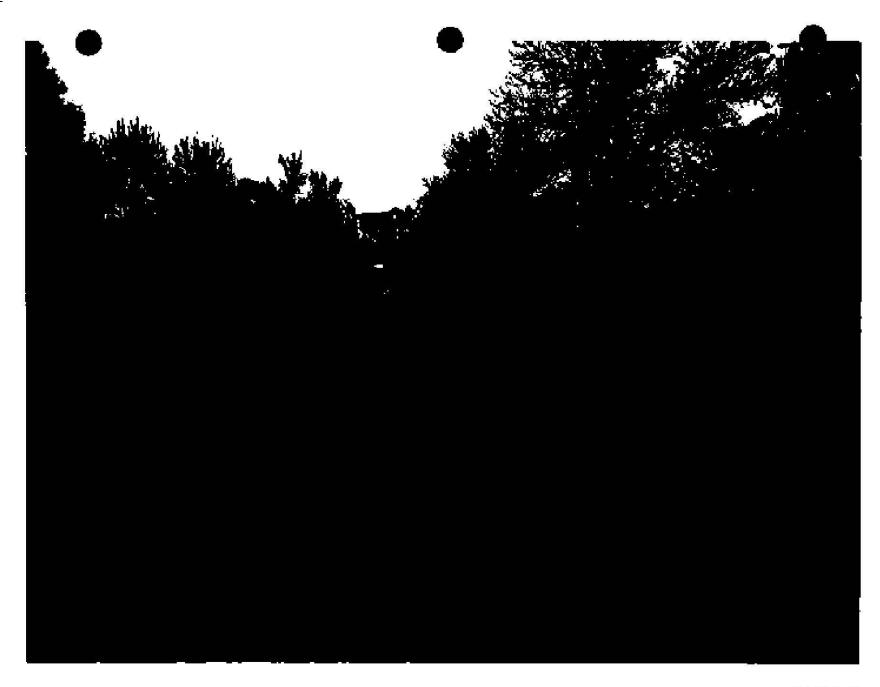












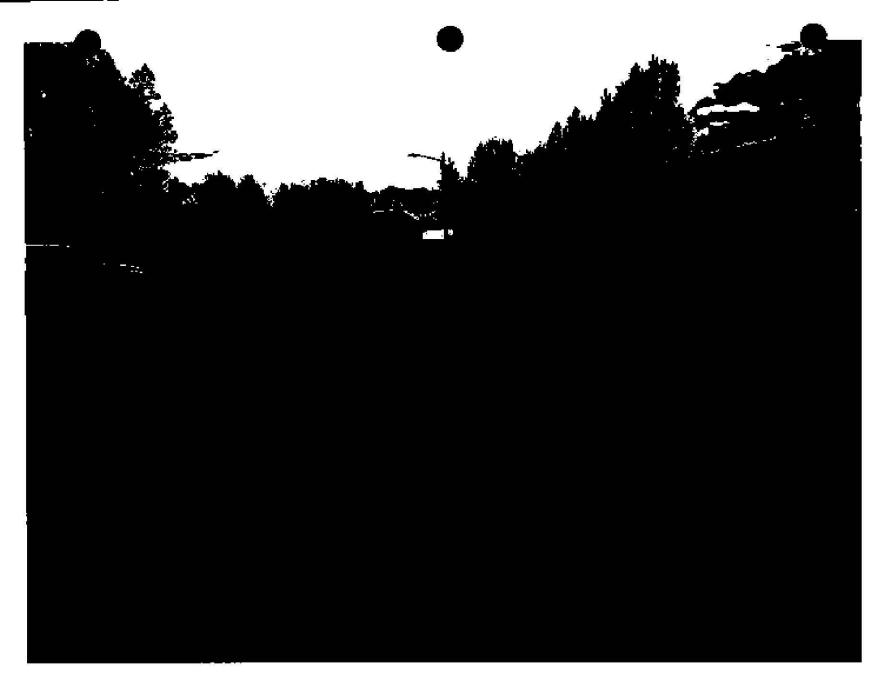






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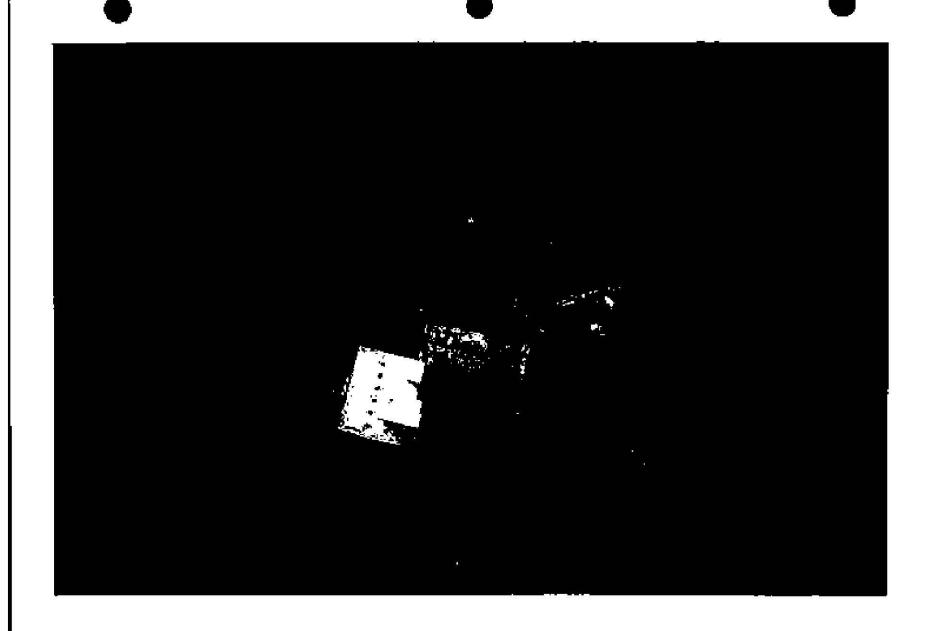


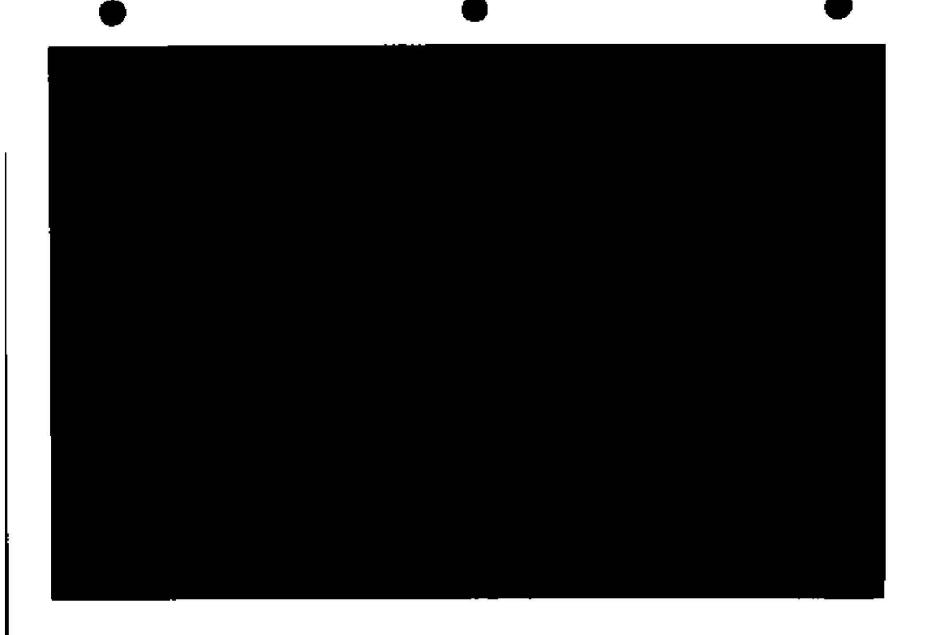


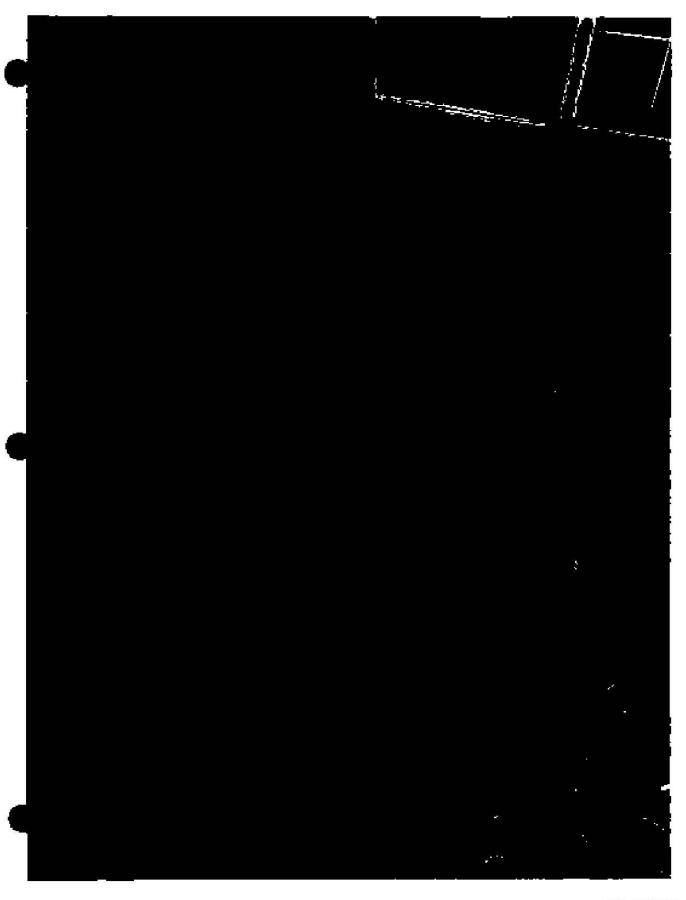
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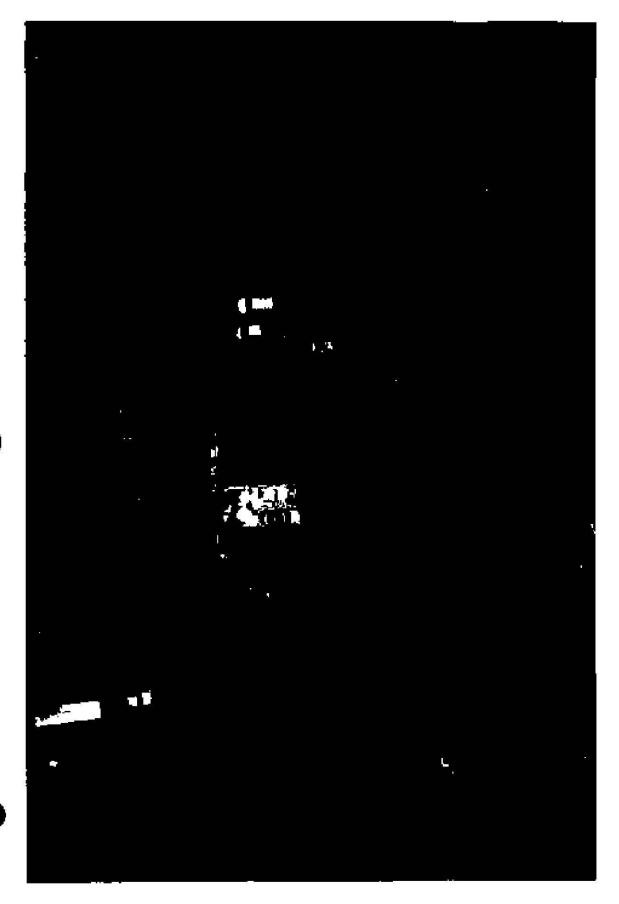




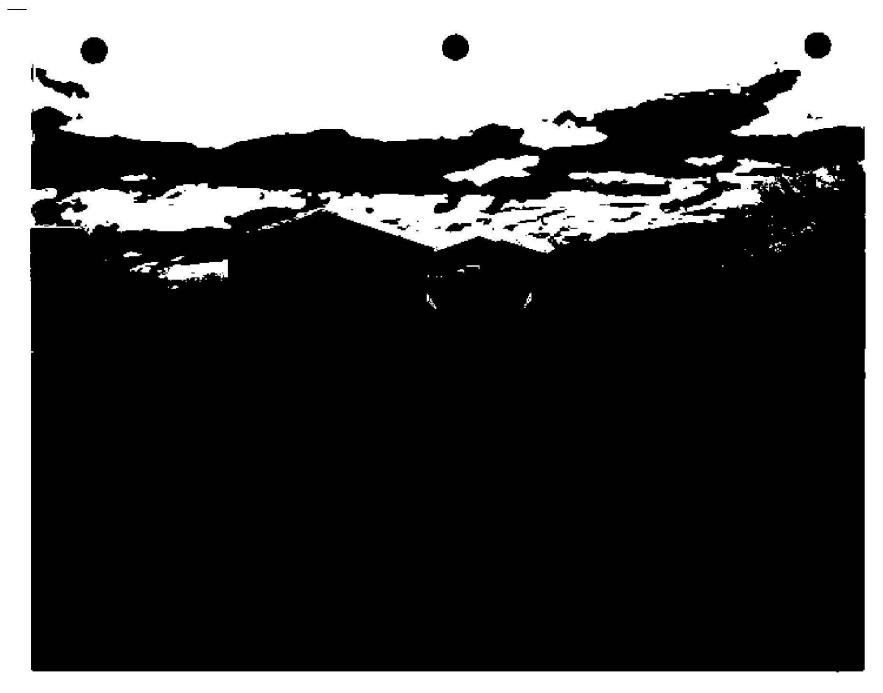


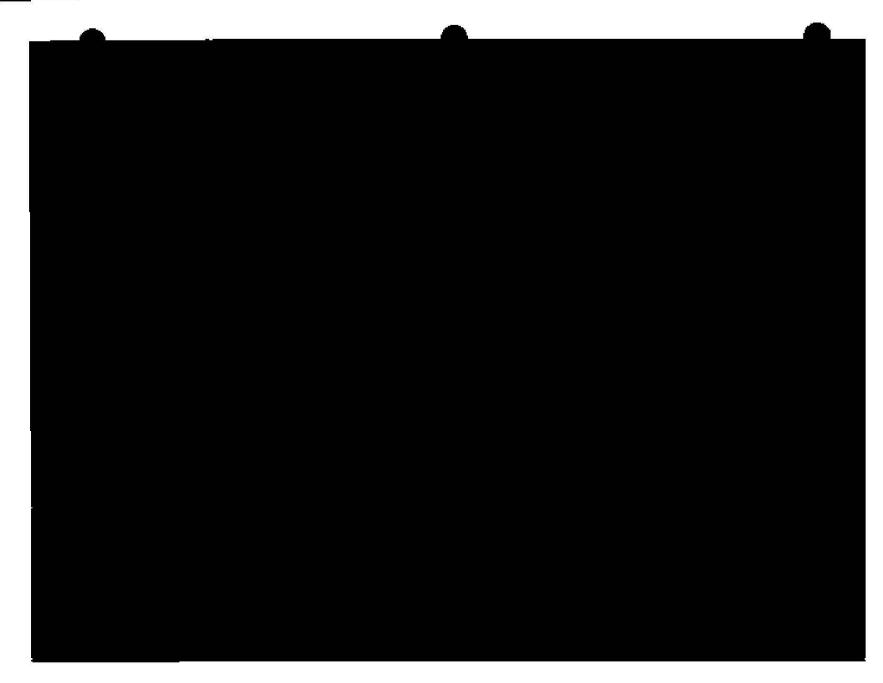






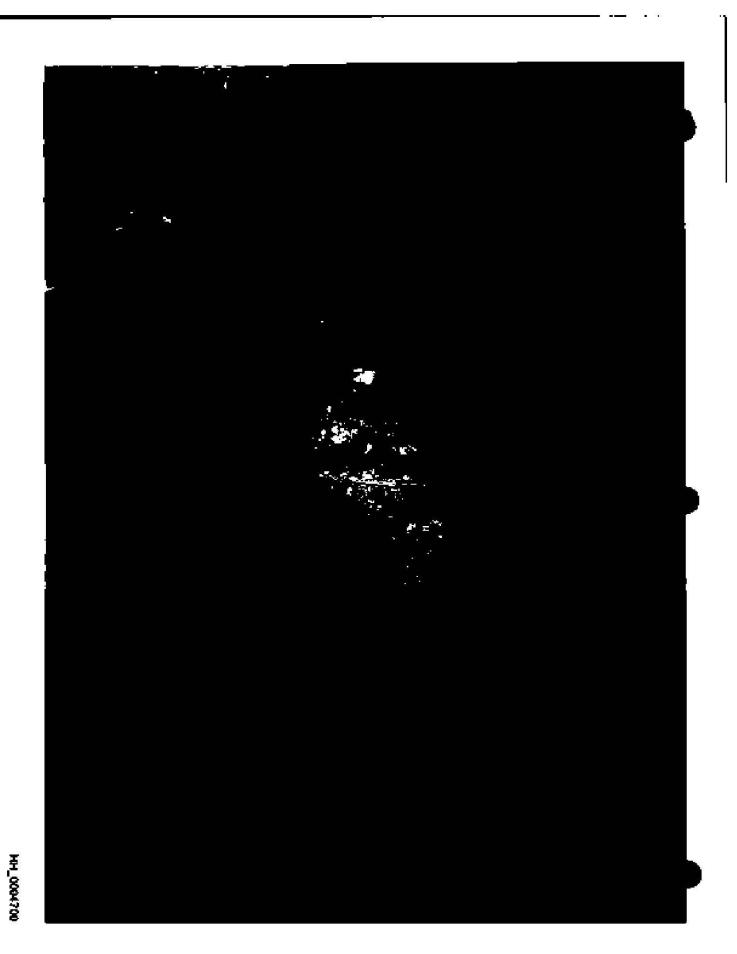
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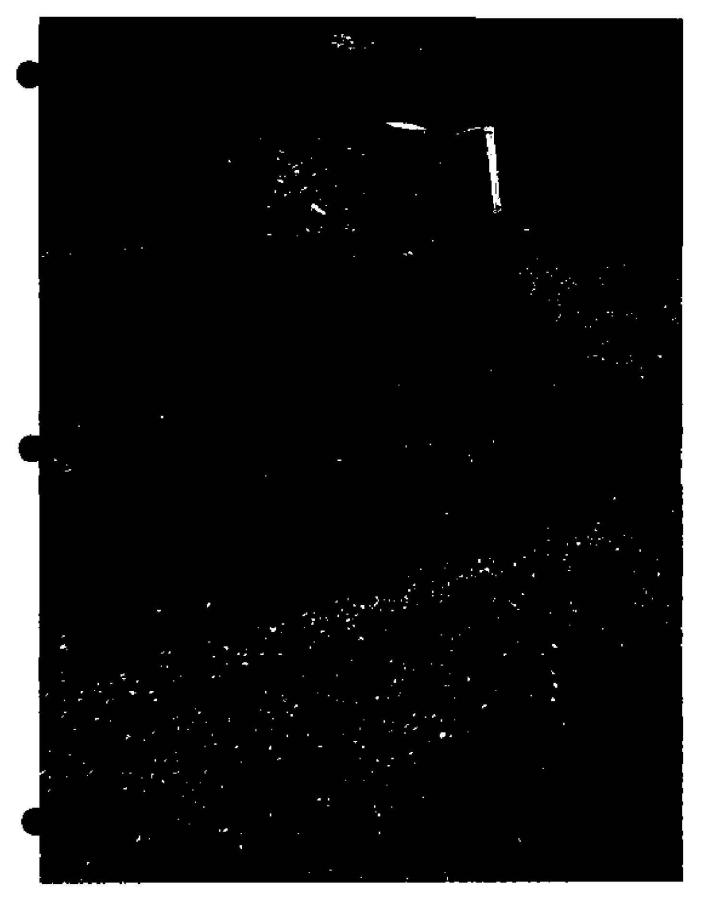




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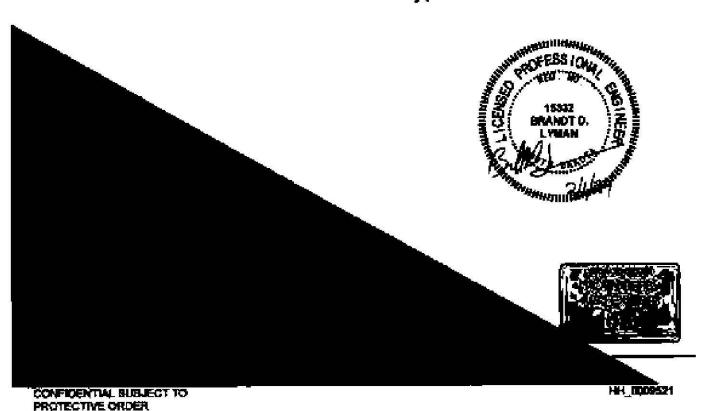








Hideaway Hills Subdivision Fox Rothschild, LLP Meade County, SD



Filed on: 07/12/2024 Meade County, South Dakota 46CtV20-000295

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COMPIDENTIAL SUBJECT TO PROTECTIVE ORDER

EXECUTIVE SUMMARY

I. Brandt D. Lyman, PE, am a Principal Partner and Principal Engineer for Western-EGI, an engineering firth headquartered in Rock Springs. WY Western-EGI provides services for geotechnical engineering, abandoned mine reclamation, internal and mining exploration, general envil engineering, and construction material testing and construction inspection. I have practiced engineering in all of these areas, and specialize in geotechnical engineering, mineral exploration and geotechnical engineering for mine reclamation. I have performed this work for 20 years. I received my Bachelot of Science in Civil Engineering from the South Dakota School of Mines 4. Technology in May 2004. I am enteretly a Beensted Professional Engineer in the states of Wyoming, South Dakota, Utah. Colorado, and Texas, and I have previously been licensed in liddho and New Mexico. I am a Model Law Engineer as designated by National Council of Examiners for Engineering and Surveying (NCEES). I am credentialed as a Centified Welding Inspector by the American Welding Society. I serve as a Wyoming Transportation Commissioner at the pleasure of Governor Mark Gordon for the State of Wyoming.

This report serves to convey my opinions of the condition of the substitute that supports the subdivision development commonly referred to as Hiderway Hills in Blackhawk, Mondo County, SD

In forming my opinions. I reviewed the following documents:

- Annual Reports of the State Mine Inspector of The State of South United from 1911-1926; State Bates 89 000134 000578
- Annual Reports of the State Mine Inspector of The State of South Dakota from 1940 1970: State Bates #4 URIS87 – 001361
- United States Bureau of Mines / Minerals yearbook: Area reports 1952 1993: Bates ## HFL 00009494803418
- United States Bureau of Mines, Utilization Study of Black Hills Gypstim Deposits. April 1948: State Bates 006093 (8/6/28)
- Mineral Resource Committee, South Dakota State Planning Buard, 1936. Portland Cement, Gypsum, and Lime Industries in South Dakota: A Pretiminary Report. Brookings, SD: Central Office. Bates ## HH 0003279 - HH 0003354
- Ehte, C. G. (1911). Gypsum Deposits and the Stuczo Industry in the Black Hills: A. Thesis submitted to the Faculty of the South Dakou School of Mines. Bates ## HII 0003256 HH 000327]
- Lincoln, Francis Joseph, Professor of Mining, South Dakota State School of Miller, 1927.
 Rock Products Industry of South Dakota, Parts 1 & 2: Bates ## HH 0003355 HH 0003363
- Lincoln, Francis Church, et al. "The Mining Industry of South Dakota." South Dakota School of Mines Bulletin, No. 17, Department of Mining, February 1937 (Relevant select pages); Birtes ## HH, 0003364 - HH, 0003371
- United States, Bureaut of Mines. (1953). Black Hills Mineral Atlas, South Dakota: (in two-page) | Washington, D.C.), The Bureaut: Bates #9 HH (0000811 HH 0000948)
- Stranga, L. A., Lawron, M. R., Jennings, W. F., NUS Corporation, & United States (1979). Hazardaus Surface Openings to Abandoned Underground Mines. Black Hills.

11000

- National Forest (CCLC Number: 7114985) Rockville, MD: The Division; Bates ## HH 0001420 HH 0001779
- "Stensors Gypsigm Study Meade County, South Dakota Jamesty 1985" prepared for the South Dakota State Coment Plant by HOSKINS-WESTERN-SUNDEREQUER, (NC. State Bates ## 002507 - 002516
- Various Newspaper Clippings: Dates Number ## [15] [0003272 101] 0003278.
- Licease 89-383 documents: Botes ## HR 18980577 HH 10000615
- License 89-383 Site 383005-0 documents, permit 424 documents, permit 424 amendment documents; FIH_0000615 FIT| 0000792
- Available serial imagery from 1952 1992; Butes #8 HH 0000793 HH 0000009.
- serial imagery from 1938; HH (#802637)
- The warranty deed to Fusa from State of South Dakota, Bates## HH 0000220.
- The published sources found under the cited references at the end of this report.

Both myself and members of my firm under my direction conducted the following geotechnical and site related investigations and testing:

- A prelimitary desire inspection of the subdivision and select homes 03/29-03/31, 2021.
- Subsurface georechnical investigation, testing, and analysis completed 11/22/21.
- Subsurface geocechnical investigation, testing, analysis, surveying, and modeling described in this report conducted in 2023 and January of 2024.

Based on this information as automorphised in my export report I have formed the following opinions:

1. Research conducted by Nick Anderson of Tonn R&M, referenced by the Bates. stumped documents listed above, indicates that underground mining of gypsum began in the 1910s. Room-and-pillar during methods were used, and underground mining. continued until at (cast the 1950s, and possibly as late as the mid-to-late-1960s, in the late 1900s, strip mining operations were undertaken for a portion of the area. Mining was conducted by two private corporations and finally by the State of South Dakota for use in the production of Portland Cement. The extent of final reclamation performed at the sate is not documented. It is understood that the mining permit was vacated, and the area was reclaimed by the State of South Dakola as postureland. The land was then sold to a private owner by the State of South Dakota in 1994, as documented by the warranty deed given to Raymond and Carol Fuss. The State of South Dakota (SD, the State) reserved upon itself the connety of the subsurface estate, with the exception of sand and gravel. The State has made no further conveyance of the subsurface estate to any other party, redividual, or cutity. In 1996 the property was split into tracts, and efforts to subdivide the tracts soon began. The Meade Comply Board of Compalssioners approved a subdivision plan for the first lots of the Hideaway Hills Subdivision in October 2002. No father reclamation work is known. to these occurred, and the development of the subdivision resulted in some cutting and filling of the solls placed during reclamation; primarily consisting of excavation and predominately in street sections, as evidenced by existing construction plans created for development of the subdivision:

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- The Space of South Dakota did not fully disclose the extent of past mining activities not did they disclose that the site was reclaimed as pushareland and not to a standard that would support unrestricted use. No restriction to the deed was made preventing fature development of the site for residential or other attrictural based uses even though it was known that the closure was not completed to a standard that would pliow structural use at the time of sole or in the future:
- As a direct result of the past mining practices, both underground and surface, and inadequate closure and reclamation of the mines to support unrestricted use, the majority of the site in its present condition is unfit to support the structures and infrastructure presently at the site. This condition has been exactristed by the dissolution of gypsum by surface and ground water of gypsum expased in the underground mine and incorporated in the surface mine backfill leading to the creation of karst in the remaining one body and piping in the fill numerals.
- Failure to disclose these forgoing facts prior to sale of the property and allowing the subsequent subdivision on the property for residential development led the development and subsequent purchasers of the lots to invest in the subdivision and individual properties with the understanding that the site had been fully reclaimed for unresqueed use post mining:
- In its current condition significant and extensive geotechnical hazards exist throughout the subsurface of Hideaway Hills Subdivision. These include the direct danger of roof collapse of the abandoned underground fitting workings, gypsum karatenditions being created in the remaining are body adjacent to the time workings, unsuitable fill (unterial consisting of weak, fine-grained soils and gypsum being used for reclamation of surface mining, lack of a specification of backfill materials and enterpartion requirements to support unrestricted development, and the interaction of unteral and antificial aquifers creating softening and weakening of the determination fill materials and mine workings. These conditions pass an unacceptable risk to homeowiters and the public that secupy and use the subdivision.

My overall conclusion is the subdivision is exhibiting signs of significant distress in homes, success, yards, sidewalks, etc. related to both the underground and surface mining. There is also obvious evidence that a portion of the water system is compromised, it is known that a significant amount of finished water supplied by Northdale Sanitary District is unaccounted for and may be emering the subgrade, and the sewer system is exhibiting significant distress in pontions of the subdivision. This distress will comfine to get worse as settlement, subsidence, kard, piping, consolidation, gypsum less, and collapse progress. Stabilization of homes and infrastructure are not feasible because there is not a proctical method for stabilization of all fill material supporting water, sewer, gas, and electrical lines. Streets and gatters cannot be stabilized without reconstructing them with stabilized subgrade and base materials that are appropriate for road building. This would require the removal and importation of a massive amount of material. The existing underground infrastructure would need to be removed, and massive amounts of fill material would need to be removed and replaced with appropriate materials, before the infrastructure is rebuilt. The surface maps backfill would need to be

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removed and replaced with backfill suitable to support the planned structures. Underpinning distressed homes would exceed the value of the properties and could be difficult to implement due to the presence of groundwater near the sedimentary bedrack. The end result of the poor subsurface conditions present beneath the subdivision is that even homes not showing current signs of distress have been impacted by the adjacent settlement and subsidence issues as the infrastructure including streets and utilities have been compromised. Herause of the improvemently of stabilizing the fill materials, homes, and mitigating the underground mine, it is my opinion that the best use of the land that comprises the subdivision is notification of the abandoned underground mine and turning the subdivision into open space.

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CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

I. INTRODUCTION

This repair constitutes the summary of Western-EGI's (formerly Western Engineers & Geologists, Inc.) findings of the Hideaway Hills Subdivision located in Blackhawk, SD Western-EGI became involved with the project when they were retained by Fox Rothschild, LLP in February of 2021. Since this engagement, Western-EGI has performed visual home inspections, visual inspections of success, sidewalks, and drainage systems, and performed two subsurface solls investigations. These subsurface solls investigations were used to determine the extents and conditions of abandoned underground mine working found beneath perrions of the subdivision and to characterize and determine the condition of soils used in backfilling the surface mine that existed at the subdivision page to its development.

The event that led to our involvement with the project occurred on April 27%, 2020, when a large subsidence event occurred in the northern end of Fest Daisy Drive, which was the result of a portion of the mine roof collapsing into the open more workings. It was autioally believed that the subsidence was due to an annapped cave, and the opening and adjacem tunnels were explored by caving exports. The caving experts quickly determined that the underground structure was an abandoned mine due to the presence of timbers and carried. At that time several formes in the vicinity of the subsidence were exactated by local law enforcement and emorgency agencies. The homes remain abandoned and are in various states of disrepair and distress. The subsidence feature is active and exhibits obvious signs of continuing collapse, Several other subsidence (catages have developed in the vicinity of the open collapse, Western-EGI has conducted subsequent subsurface investigations which have identified portions of the open mine workings and revealed that part of the mine is partially flooded and there is evidence of groundwater movement into the abandoned mine.

Brandt Lymen, PE and Rob Cerrard, PE traveled to the Hideaway Hills Subdivision in March of 2021 and performed several visual home trapections and visual inspections of the surface infrastructure (enail, sidewalks, driveways, etc.) and dramage systems (gutters, ditches, etc.) on March 394-317, 2021. The visit to the subdivision was used to establish the condition of humes. infragrecture, and dramage. Visual inspections were also used to determine if other aubaidence features were present at the site, and if it was evident that other cultapses or significant subsidence events were imminent. The investigations revealed that homes at the subdivision had varying degrees of observable structural distress, with some homes exhibiting significant seriloment and others only having minur crucking. The streets and sidewalks throughout the subdivision show that extensive settlement has occurred beneath povement and concrete sections Rupply from streets and sixtewalks is allowed to freely enter the subgrade soils via cracks and gaps readily found throughout the infrastructure. Cutters were found to not be straight, and depressions caused by settlement were common and allowed pending. Cracks and gaps were found along the genery throughout the subdivision. Driveways, walks, and yards with settlement and deoressions were common in the subdivision. The results of the visual inspections indicated that the abandoned mine workings and subsurface soils found at the subdivision were netively moving, and generally more movement was experienced during wes conditions. Secause of this, Western-EGI recommended that a substantage investigation be conducted via drilling, and further testing of subgrade moternals be performed.

Western-EGI performed exploratory drilling August 30th-September 3th and September 28th-October 1th, 2021. For this investigation, drilling and sampling was performed by Northern

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Tenhanlogies, LLC (NTI). Samples were collected by Westers-EGI, and subsequent laboratory testing was completed by Westers-EGI at their materials laboratory in Rock Springs. WY The drilling revealed that the subsurface materials used as fill for the strip mine had variable depolty at differing elevations, powdered gypsian mixed throughout, and differing depths, and there was evidence that groundwater may be present in the subsurface at times. It was obvious from these findings that the fill material used to reclaim the strip mine was not controlled during placement Attempts to find the limits of the underground made workings were not completely successful. Open volds were not encountered; however, would fragments were found at depths consistent with known mine elevations which indicated that the mine workings likely extend further to the cast and south than are currently mapped.

This area of South Dakon received much more moisture over the winter and spring of 2022/2623 compared to the two previous springs. Subsequently, several residents in the subdivision reported more active settlement around their homes. Because of this, and to accertain a definitive understanding of the geotechnical conditions leading to problems evident at the subdivision. For Rodnechild commissioned Western-EGI to perform an extensive subsurface investigation across the subdivision. This investigation was used to determine a clear understanding of the soils and materials used to backfull the strip-mining operations and further determine the extens of the underground workings since previous drilling had indicated that the workings extended further uses than originally known when the collapse occurred. This investigative drilling was performed from June 19th through June 21th, 2023. Geotechnical drilling and sampling were performed by LK Drilling and Boring of Green River. WY and air rotary drilling to determine the limits of mining was performed by Nikolas Enterprises of Rapid City. SD. Brandt Lyman, PE and Rob Gerrard. PE of Western-EGI supervised drilling operations and collected data and soil samples during the investigation. Further laboratory testing was sompleted by Western-EGI personnel at our Rock Springs. WY materials laboratory.

Western-EGI will present and testify in detail the findings of all investigations we have conducted prior to 2023, the 2023 investigation and subscipent testing, analysis of subsurface conditions and geotechnical bazards present of the subdivision, and our conclusions about the condition and safety of the subdivision. Our analysis and conclusions also draw on information uncovered through research conducted by Nick Anderson of Toun R&M, review of published geological data, public records, and literature pertaining to the engineering and raining concept used and present at the subdivision. In depth discussion of previous investigations is not included, but the prior reports produced for those investigations are referenced, and the reports will be provided.

II. BACKGROUND

As discussed in the previous section, this case was initiated by a large subsidence event consisting of the partial collapse of the mine confithat occurred in April of 2020. The collapse created an opening into the abandoned mine workings and damaged infrastructure in its immodute vicinity. Pirst responders at the ootherse initially believed that the voids may have been a cave system, and experienced cavers from the Paha Sapa Cirotte of the National Spelcological Society volunteered to enter the opening and investigate. They quickly determined

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that the voids were the remains of an abandoned underground mine from the presence of support timbers, cart rait, abandoned vehicles, and tool marks on the walls of the shafts. Local croergency management agencies then evacuated 12 families from the area (Zinets, A. May 4th, 2020). The event was widely reported on regionally and articles about it were published in national sources (Benaim, R.D. May 7th, 2020).

Subsequent research commissioned by Fox Rothschild Indicates that underground mining began in the 1910s. Room-and-pillar mining methods were used, and underground missing continued that it is least the 1950s, and possibly as late as the mid-to-late-1960s (Affidavit of Nicholas Anderson). In the late 1960s, strip mining operations were undertaken for a portion of the area. Mining was conducted by two private corporations and finally by the State of South Dakots for use in the production of Portland Cement. The extent of final reclamation performed at the site is not documented. It is understood that the mining permit was vacated, and the area was reclaimed as pasture land. However, the land was sold to a private owner by the State of South Dakota in 1994. In 1996, the property was split into tracts, and efforts to subdivide the tracts aton began. The Meade County Board of Commissioners approved a subdivision plat for the first lots of the Hideaway Hills Subdivision in October 2002. No further reclamation work is known to have occurred, and the development of the subdivision resulted in some centing and filling of the soils placed during reclamation; primarily construction plans created for development of the subdivision sections, as evidenced by existing construction plans created for development of the subdivision.

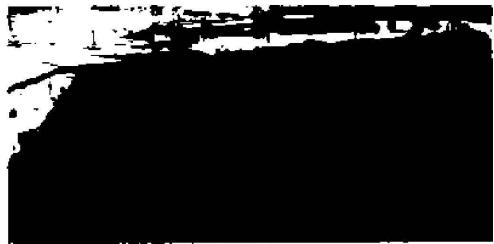


Figure 1: Large Subsidence Feature Light by April 27", 2020 Eyest

The subsidence of the abandoned underground mine workings and settlement of the strip mine backfill is visually obvious from surface definemations found throughout the subdivision and distress exhibited by homes in the subdivision. The rate of movement increases with increased precipitation (see Western-EGI reports, Appendix A). This is expected, since introduction of water into the subgrade catalyzes movement of soil by causing softening of clay and silt materials, crossion and weathering of the settimentary rock that comprises the roof of the mine workings, and in the case of Hideaway Hills, suspected loss of gypatim from the backfill soil through dissolution. As subgrade conditions worsen, a feedback system is created. Water cuters

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the subgrade, causing settlement and subsidence, which enuses fluther dramage problems, allowing more water to care the subgrade soils, and creating further settlement and subsidence. As drainage systems decrease in functionality, settlement and subsidence rates will juccease.

III. CONDITION OF ABANDONED UNDERGROUND MINE

Western-EGI performed work during two different subsurface investigations to determine the limits of mining for the underground mine. This work was undertaken because verbal reports from the cavers that entered the mino indicated that carr rail extended away from the main haulage to the east into flooded portions of the mine. Research conducted by Tong R&M also taliented that reports exist indicating higher gypstan tennage was removed from the mine than what can be accounted for from the workings that have been mapped (Affidavit of Nicholas Anderson).

Hased on historical pertat photography, there is some evidence that the underground mining extended further to the north of the current roof cultapse. In testimulay provided by a former employee, an attempt was made to further mine areas previously mined by room and pillar methods with strip mining by collapsing the abandoned mine workings with explosives, and it appears that this attempt was successful in collapsing a person of the mine workings, but further strip thinthy was not performed (Dennis, L. 2000 and Lyle Dennis Sworn Deposition, 05/22/23).

To descriming the extents of the imming. Western-EGI used air and must rotary and conventional auger drilling to explore the subsurface to the east, southeast, and north of the known abandoned upderground mining areas. Air and must retary drilling were the primary techniques employed for this work. Orilling conducted in September and October of 2021 was the first time Western-EGI found evidence of the abandoned mine workings in two boreholes. One borehole was drilled in a location that was known to be in the underground mining area. Specifically, the borehole was drilled in Eost Dainy Drive in front of house number 1942. Mixed fill with asphalt material was found in the subgrade at this location. This indicated that the area in the numediate vicinity of this barehole has suffered a subsidence event in the past that appears to have been backfilled and paved over. In another borehole we found 33' of the Sundance Purnation overlaying a 15' thick bed of gypsum. Below this bed of gypsum, at 48' below existing grade (bgt), pieces of mine timbers were remieved. This indicated that mining had occurred in the lower portion of the gypsum bed, at elevations consistent with known mine workings (see Report of Investigation, Appendix A).

Borchole 23-007 was drilled on 00/20/23 and was located in the southern from yard of the home located at 70/3 ft. Daisy Drive. The drilling revealed that the area is covered by 20' of olive-green clay consistent with materials found in the Sundance Formation. At 20' bgs, circulation was lost and cuttings were not returned as drilling advanced. The drill string did not fall, indicating that a yould was not present, but the loss of circulation continued until the string was advanced to 38' bgs. Groundwater was present in the borchole during drilling. Another borchole. BH-25, was drilled on 08/31/21. At the same general elevations, sampling indicated that tayers of mixed olive-green clay and gypsum fill material was present. The loss of circulation experienced during drilling in 2023 is consistent with conditions common while drilling through tubble zones in collapsed mines. Based on the location where the rubble zone and fill insternal

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were found, these findings are commutent with conditions expected to be created by the blasting conducted to collapse the mine that occurred in the 1980's. This blasting is described by Mr. Lyie Demais in Blasting at Paratal (Issuent (2000) and during his sworn depositions from 11'18/22 taken by Mr. David Crooks. From Mr. Demais' testimony given in those depositions, it is our understanding that an experimental blasting project was conducted to determine if gypsum could be recovered from previously subsurface mined areas. After the blast, it was determined that not enough gypsum was available for recovery and the project was abandoned. In his 11/18/22 deposition, Mr. Dempis states:

"As I recall, they checked it mut, my boxs and soon it wasn't worthy. There wasn't enough gyp there. And all we do to surface mining. We don't do underground mining. So they determined to cover it backup, pack it in and henc." (pg. 23, Us. 4-8)

The exhibits included with these depositions indicate that Boreholes BH-25 and 23-107 are in the vicinity of the work Denois describes. The subsurface condition is consistent with the minimal reclamation work performed as Denois further describes.

Drilling conducted in June of 2023 encountered open voids in three boreholes designated as 23-011, 23-014, and 23-022. Boreholes 23-011 and 23-014 were drilled at the edges of known undergroupd mining by air totary drilling, in both of these boreholes, the void was quantified bareath 6'. I' of intact gypaum. The voids were 11' thick in both boreholes and extended from 18' bgs to 49' bgs in 23-014 and 30' bgs to 50' bgs in 23-011. Borehole 23-022 was drilled with conventional flight auger. Eccause return is not as immediate as air county drilling, it is difficult to escentain the exact elevations where material change occurs, but the geology was extremely consistent with all other boreholes drilled in the vicinity with air rotary based on retrieved entings. At 49.5' bgs measured on the drill string, the drill string fell 5" - 8", indicating that the bettom of the string had encountered a void. Because of the elevation where this occurred, and the consistency of the strata observed while drilling. Western-EOI is confident that a void was encountered at this location. Seconce of the steep stoface slopes to the west of 23-022, further drilling could not be conducted between the borehole and the known mining limits. Therefore, it is takenown at this time if the wild was created from mining activity or if it is the result of known created by adjacent flooded mine workings

A content was used to further investigate the void found in 23-011 and 23-014. Video feed from the carners showed that the void was nearly completely flooded. The standing water table was 5" below the roof of the mine in 23-011 and 2' below the roof in 23-014. The water in the raine was too turbid for video to be captured below the water table. The carners was also lowered into 21-012, but the borchole was flooded above the elevation of the void encountered and due to carbedity, video could not be seen at that elevation. It is unknown how water levels in the simuloged mine fluctuate seasonally and between wetter and drier years. The water level was a approximately the same true elevation in both boreholes, indicating that the mine it still open between the rooms and hautages. Since an air gap was observed below the roof of the mine it is apparent that water in the mine does not have excess pore pressure, the equifer that encompasses the mine is instifficial, and the granodwater is likely interconnected with other aquifers or attention in precapitation levels. This condition leads to faster weathering of each types and with changes in precapitation levels. This condition leads to faster weathering of each types

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found in the mine workings, such as mudstane, gypsum, and timesome. Gypsum is especially valuerable to weathering and crosson from moving groundwater which meturally leads to sinkholes and subsidence in gypsum beds in the Black Hills (Epstein, J. 2011). This sump mechanical weathering process causes the abandoned mine workings to be particularly valuerable to collapse because the roof is supported by the gypsum pillars that were left to place after underground mining operations dessed.

Because of limited drilling access due to landowner permission, proximity to buildings, fences, ext. Western-EGI is not able to drill a dense borehole pattern that will allow us to definitively determine the underground mine extents. However, mine voids were found conside the known limits of mining, and it is our opinion that the underground mine extends further to the east and south than is currently believed. Drilling ground the west, south, and east edges of the known mine workings found that proporties next to the mine workings are built over a gypsum bed that images from 6 mehes to 48 feet in thickness. This is the same gypsum bed that was partially mined by the underground mining operations. Although the gypsum bed has significant cover from the surface (15' – 42'), it is prone to weathering from the substance it is in contact with the open mine workings. It is our opinion that this condition increases the risk of development of gypsum harst beneath these properties, which would lead to subsidence and collapse of panions of the gypsum bed

The mine workings are presently open to the numusphere in E. Daisy Drive, and beneath the home located at 6942 E. Dalsy Dr. Other portions of the workings are relatively near the surface. and subsidence features are evident in the coof. These openings into the intic allow storm (unoff to enter the abandoned mine. This ranoff has very little appears or other salt on concentration when it enters the unine. This gives the water a potential for high gypsum concentration dissolution from the furnation when a contacts remaining gypsum in the abandoned mine. Data collected during our investigations (adjectes that the water in the mine is unconfined, and therefore is moving to an unknown location down dip. In addition to proclivity for electrical solubility, gypsum has high susceptibility to muchanical weathering, exacerbated by maying water (Rahn, P and Davis, A. 1996). Because of this, it is our opinion that abandoned mine Workings pose a danger to properties well beyond their current extents. Based on the data that we have gathered from Borcholes BH-27 in 2021 and 23-022 in 2023, it is our opinion that at a minimum, the properties beened at 6862 E. Daisy Drive and 6853, 6879, and 6891 W. Elinwood Drive are at increased risk of damage from further subsidence and collapse of partions of the abandoned mine workings that have not yet been mapped, and gypsum karst that is being created from weathering of the remaining gyreum bed adjacent to the abandanced underground mine.

IV. CONDITION OF RECLAIMED STRIP MINE

1. Subsurface Investigations

Western-EGI has performed extensive investigation and testing of soils that were used to reclaim surface uniting that was conducted beneath the vast majority of the property that became Hideaway Hills Subdivision. Subserface investigations were completed by Western-EGI in August, September, and October of 2021 and June 2023. The purpose of these investigations was to determine the condition and properties of the subsurface soils that dozon statutally at the

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subdivision and materials used to reclaim the surface mine.

The arvertigation conducted in 2021 determined that the soils used to backfill the mate consisted of locally present anterials derived from the pulverization of soil sedimentary mek and gypsum. These materials predominantly consist of maderones originating from the Sundance and Spearfish formations, and gypsum prevalent in the Spearfish Pormation. The fill materials are readily identified by the pulverized and mixed appearance and the varying content of pulverized gypsum found mixed through the materials. Materials taken from the intact formations appear as finely blocked madetone with intact layering. Intact samples from the Spearfish Formation commonly commit mater veins of gypsum merbedded in the mudstone in the formation. Materials from the Sundance and Spearfish Formations are identified by the abvious color differences between the two formations. Mudstone from the Sundance Formation is olive-green to gray, while mudstone from the Spearfish is medium to dark ted and commonly has veins of gypsum. Oypsum beds of varying thickness are found in the Spearfish Formation and appear as off-while soil took.

One collected during the 2021 substraine investigation found that extensive amounts of fill exist beneath homes and infrastructure throughout the subdivision. Pulverized gypsum was present in nearly all of the samples that were Spearfish Formation derived fill. Some samples of the fill contained a mixture of Sundance Formation and Spearfish Formation materials, and other samples were fill derived from the Sundance Formation only. Evidence of perched water lables were found in some of the soils, which appear as saturated soils. Free water tables were not measured in any of the boreholes drilled during this revestigation. The stiffness of the fill materials also varied by location and modernly with depth, indicating meansistem composition effort during placement of the materials. These observations were consistent with the surface deformations, settlement of infrastructure, and dispers of homes that had been observed at the subdivision during this investigation and provious investigations at the subdivision (see Report of Imagnity of Imagnity 101).

To definitively determine the geotechnical hazards that are present at the subdivision created by the reclamation performed after surface mining stopped, an expanded investigative program was created and implemented in 2023. Orilling was conducted June 19th - 21th, 2023, Georgehausal drilling was performed by LK Drilling & Boring of Green River. WY with a Sinner 2400 H/S rig. mounted on a truck charsis. Borcholes were drilled using 4" nominal diameter solid flight ought Blow county and suil types were recorded as sampling was completed. Sampling was conducted with a nominal 2" (2.1), Signifurd Split-Spean sampler and 2,5" l.D. Medified California sample: and a 140-pound rope-and-pulsey safety hammer with a 30" free fall stroke. Sampling was performed at 5-foot intervals as drilling advanced. Samples were typically taken at 12" below existing surface, and then at every 5-loot interval until sampling confirmed that the native. undergreed bedrock had been encountered. The drilling and spitt-spoon sampling were done in general accordance with ASTM D1452 - 09 Standard Practice for Sail Exploration and Sumpling by Anger Burling, and ASTM D1586 - 11 Standard Tool Method for Standard Penegration Lest (NPT) and Spite-Rarrel Sampling of Sails. Orilling supervision, logging, and sample collection was conducted by Brandt Lyman and Rob Gerrant. Samples were scaled as they were retrieved by samplers, marked, and stored for may port. The samples were transported to our imperious laboratory in Rock Springs, WY, and subjected to further laboratory testing to

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determine the engineering properties of the quaetials (ound beneath the subdivision,

A total of 18 holes were drilled and served as the subarade exploration for this investigation. The locations of the bereholes were selected randomly across the subdivision, with the only consideration being drill rig accessibility both physically and permissible by landowners. Orilling was not purposely performed where ground depressions were present or where infrastructure, site concrete, etc. showed settlement. This randomization was done so that results would be statistically mesagingful for the entirety of the subdivision. The same visual parameters for identification of fill material, intact formation, specific formation, and gypsom deposits datermined during the 2021 investigation were used for the 2023 investigation. Water tables, where encountered, were measured from the water surface to the ground surface as they were encountered during drilling and then several bours later after drilling was completed. Where possible, bareholes that encountered groundwater were left open 12-24 hours after drifting was complete. This was done to allow groundwater in the boreholes to stabilize against atmospheric pressure to determine the amount of excess pure water pressure in feet of head (feet, ft.). All data, measurements, and observations made or collected during drilling and before boreholes were backfilled were recorded in horing loss made at that time. Logs were retained and converted to digitalized versions containing information gathered during the field investigation and determined during laboratory testing.



Photo ! Pypical fill material sames wantified by pure-rayd appearance of multiplicae and mixed injuntary

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Playto 2. Comparison of intact samples of the Specifich Formation Reft) and Sambace Formation (right). Note the presence of fine layering and blacking in both maddance types, and abstract gyposite was in Specifich sample. The serviction of color of the two furnations is apparent.



Photo 3 - Sprayin of intest graphes (left) and been in contenting back discontinuity between Sandpoor and Sprayin interiorists (right). Spit-barren sprayins allow the collection of representative stropies of subscripes materials which where legging of the meantal depths and properties with a high degree of proposes.

As poted above, the samplers were driven with a hammer with a known weight and drop stroke. This weight and drop stroke correspond to the requirements of ASTM D 1585 for performing standard penetration tests (SPT). SPT are a cost-effective field test for determining the strength characteristics of a soil mass. Engineering literature contains extensive correlations between SPT results and other engineering proporties (Oas, B. 2003). This makes the test extremely useful for the analysis of subsurface soils. To effectively correlate field SPT results, the blow counts obtained from the field are corrected to consider samples effects, overburden pressure and depth, energy losses, rod length, and borohole geometry. These corrected blow count (No) numbers are then compared to general values for similar material types found in linerature for chosen properties, and compared to ranges for similar materials for consistency or compactness. Because the primary soil type found in the fill materials (negating gypsian for this determination) is clay. consistency is the property that would generally determine the strength of the material. The corrected blow counts for the fill materials sampled across the subdivision ranged from a burehole average of 4 to 13, and the overal) value range was 1 to 17. The borehole averages correlate to consistency of soft to stiff. The overall N_C values correlate to consistency of very soft to very stiff (Hunt, R. 1986). Clay soils are very sensitive to moisture content, and the consistency becomes softer with increase in moisture content. It was expected that water clay materials would have softer consistency, and this was found to be true for the fill materials. Softer consistency relates to lower bearing capacity. Based solely on the Ne values obtained from this investigation, the allowable bearing esparity, Q,, of the clay sorts would range from a low of 500 paf to a high of 3,000 per. The majority of the fill material would be expected to have

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 Q_s of 2.000 pell. The expected maximum tooting loading of the homes in this neighborhood would be expected to be 1,500 psl.

2. Groundwater

As discussed previously, groundwater was encountered in several of the borcholes drilled to investigate the abandoned underground mine workings. The mine voids themselves were also found to be partially flooded. In total, groundwater was encountered in 5 of the 18 borcholes drilled for the 2023 geotechnical investigation. The following table describes the groundwater empditings encountered during the field investigation.

Borchole	BH Location	Flevation While Orilling	Elevation After Drilling	Measured Pore Pressure
23-1002	6870 Mesdow Rose Lane, South Front Yard	24° BGS	231 BGS	1"
23-1004	6765 Mesdow Rose Lune, Front Lawn	Wet soils noted	12" BGS	N/A
23-1005	6950 Orchal Court. North Front Yard	21.5° BG\$	12° BGS	4,5*
23-100%	7045 Daisy Drive, South From Yard	20,51 968	11.5° BQS	9*
23-1017	6801 Elntwood Drive, North From Yard	31. BQ2	12' BGS	a.

The water level in 23-1002 can be equalified static. The change in elevation could be accounted for if material sloughed in from the sides of the borehole, or if material entered the borehole by other means, though this was not observed by Western-EGF in it also possible that a slight pure pressure exists in the clay material in this area. In any event, it is our opinion that the water table in the vicinity of this borehole is a perched water table, and is not related to the groundwater observed in the other boreholes. A groundwater table was not found during drilling in 23-1004, but it was noted that the soils were wet during drilling and the upper portion of the weathered formation was described as were weathered mudstone. The fact that the water table was measurable after it was allowed to equalize indicates that the water takely came from the formation. This would arean that the groundwater table has a pure pressure head of 3' - 4.5'

For the other remaining boreholes, the water table was encountered in the weathered zone of the formation while drilling. In all three lustances, the pore pressure was consistently measured at 9 – 4.5°. This groundwater is a currined aquiter that exists in the weathered zone of the Spearfish Formation in the vicinity of the subdivision. The upper portion of the Spearfish Formation is commanly referred to as the "Gypsum Spring Formation" and is known to contain abundant groundwater that supplies springs and wells (Epstein, J. 2001). The equifer is partially cutoff from the subdivision by the intrusion of the Sundance Formation in the southeastern corner, which acts as an equicibate. This is why the equifer was found in 23-1017 but not present in the south-central portion of the subdivision where the Spearfish Formation is present. Bureholes 23-1005 and 23-1006 are at a lower elevation than much of the subdivision, precluding flow of groundwater to the higher elevations from these locations. Water was encountered in the Spearfish Formation in the boreholes drilled south of the Daisy/East Daisy horseshoe. The groundwater encountered in those boreholes is part of the saturated zone in the confined equifer

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contained in the Spearfish Formatina. Pertinns of this saturated some appear to be interconnected with the mine workings and contribute to the flooding of the mine workings that was observed, it should be noted that the report createst in 1985 for the Stote Certien) Plant did not indicate that drilling had encountered groundwater (Broskins-Western-Sonderegger, Inc., 1985). It is our understanding that there are no records of water discharged from the underground mine during its operation, and no known accounts of groundwater being present during surface mining operations.

The fill material above the confined aquifer was wer to saturated during Arthing. This indicates that the fill material is part of the vadues zone and capillary fringe of the aquifer. Because of this the malature content of the soil in these zones experiences fluctuation that leads to softening as moisture levels increase. Water tables in the fill material are concerning because the bunyancy effect of water in the soil leads to a decrease in effective stress of the soft, which in turn thereases the playery sails' shear strength, altimately decreasing its bearing capacity. Properties in the subdivision with these conditions are at increased risk of sertlement of homes and structures.

is should be expected that the presence of groundwater will contribute to loss of gypsum in the open underground rathe weekings and pulvetized gypsum in the fill numerials. Loss of gypsum in the subgrade and underground mine would largely be a function of where recharge of the aquifer is occurring, the gypsum concentration of the groundwater, and the movement of water through the fill into the aquifer. Understanding of this would require long term groundwater studies that are outside of the scope of our investigations. Movement of groundwater from the aquifer into the mine volds would plso contribute to prechanged weathering of gypsum it flows across.

3. Laboratory Testing

As described previously, scaled samples were transported to our lab in Rock Springs, WY and subjected to extensive testing to ascertain the engineering properties of the common materials found beneath the subdivision. The testing focused on the fill materials that were encountered during deliling and sampling operations. Testing included:

- ASTM D2216-19 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soft and Rock by Mass
- ASTM 1943 (8-17c) Standard Text Methods for Lapted Land, Plastic Land, and Plasticity today of Soils
- ASTM D6913/D6913M-17 Standard Fed Methods for Particle-Size Distribution (Unadation) of State Uring Sieve Analysis
- ASTM D4546-21 Standard Test Methods for Cine-Dimensional Swell or Collapse of Soils
- Gypsum Content of Solls.

This testing was used to determine the soil type per the Unified Soil Chassification System (USCS) and American Association of Highway and Transportation Officials (AASHTO) classification systems. These classifications allow us to determine the generally expected behavior of the suils, and what properties the suils would be expected to passess such as cohesion, permembility, sensitivity, friction angle, etc. The soils predominantly classified as clays, so the properties that they possess that would most affect their use in construction are cohesion and consistency. Testing to determine liquid limit, plastic limit, and plasticity index (Atterbery, Limita) are not only used for the classification purposes, but are also important to

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know so that It can be determined what state in-situ soils are in as determined by their moisture content.

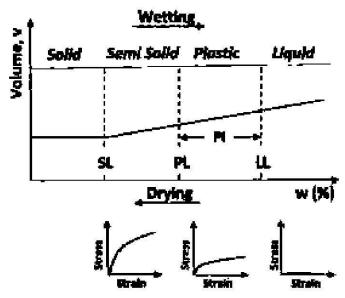


Figure 1. Clay could be humor changes with manipure content. The most have content at which the change about a frame as the Adjustness (limits. The PL mat it is made in the manipulation for a presenting less of strength, to a framewise, Co distributes this to have already the analysis. So, Could never present mere pro-

The common fill soils found in each borehole were subjected to these tests. Because the fill insterial is derived from the nauktons in the two formations found beneath the subdivision, the properties of the derivative elay soils are consistent. The addition of gypston into the soils may affect Atterberg I innits but extensive research into these effects has not been undertaken. However, there is evidence that the addition of gypston will decrease the LI, when added at 3%-7%, but then increase at higher percentages. The PL may follow a similar curve, but decreases for contents up to 7% and then increases (Al-Adili, A et al 2019). Literature that exists for those conditions only contained information for soils with a maximum of 15% gypston. Western-EGI could not find any research into the impact of high gypston contents (up to nearly 77%, see Section IV.A () prior (ontent) found in the fill intertials at Hideaway Hills. In any case, the Atterberg Limits that were found by testing are accurate for the materials as they exist. Therefore, these values are predictive of the material behavior. Below is a summary of the test results pertaining to moisture content and classification of the fill materials sampled across the subdivision. This table only provides the average conditions found in each borehole. Data for all test results can be found in Appendix D.

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				Амстаце	Average N _C Values]]
			Soil Type	Ministure	(Fill			Liquidity
Borchole	De pth	Soit Type (USCS)	(AASHIO)	Content	(and Material)	PL	LL	Index
23-1001	1.0" - 2.5"	SC - Clayey Sand		4.0	13	17	27	-1,3
23-1002	10.01-	CL - Lean Clay	A-6	14.3		18	33	25
 *1-114055	11.5	CL - LEBU Clay	טיט	14.3	r	1.0	33	7.4.
23-1003	5.0" - 6.5"	CL - Lean Clay	A-6	17.1		18	29	0#
23-10/14	5.0 - 6.5	CL - Lean Clay	A-4	30.0	g	21	30	1.0
	10.01	(combined)	0.000	600 v c 6 4 500 c 600 v v y c 60	2000		130-400	5500 500
	11,5"	8						
23-1005	1.0' - 2.5',	CL - Lean Clay	A-4	17,9	g	18	32	01
	10.0% -	Cl Lean Clay	A-7-6	23.9		24	47	00
	11.5	C'L - Lean C'lyy	A-7-6	25,6		25	41	(#
	15.01 -	CL - Lean Cluy	A-b	19.1		20	31	08
	16.5							
	2046 -							
	21.5	beets .						
23-10016	1.0' - 2.5'.	CL - Lean Clay with	A-6	22.3	*	21	37	08
	10.01 -	Sand		26,0		20	30	.60
194	H.5"	CL - Sandy Lean					ř	
		Clay					L—.	
23-100k	10.0"-11.5"	CL - Sandy Silty	i A-6	25.7	4 -	16	36	.49
		Clay	1					_,
23-1009	25.0%	CL - Lean Clay with	A-7-6	J e .7	6	21	48	~)6
	26.5	Sand	925	120 MARIE 1100	***	Vergozzak.		
23-1010	1'-2.5'	CL - Lean Clay with		19.5	7	21	36	- 10
	5,0'-6.5	Sand	• А-б	11.5		14	31	¢3
		CL - Sandy Lean						
	4	Clay	F = ==	18		1	==	
23-1017	1.0' - 6.5'	CH - Im Clay with	A-7-0	20.2	11	ŻŦ	72	62
	10.0" -	Sond	A-6	24.5	ľ	17	36	.39
	11.5	CL - Lean Clay with		8				
-	L <u></u>	Sartu	32 <u>—</u> 14 9900					
23-1022	5.07-6.57	Cl Lean Cley	A-7-6	23.0	LO LO	. 27	47	-0.20

the fill soil is fine granted, and only one sample from 23-1001 encountered material that was coarse enough to not classify as predominantly clay, and instead classified as fine clayey-sand. The predominant soil type is lean clay, and approximately half the samples contained a portion of material that had a grain size large enough to classify as sand. It should be noted that the sand size particles may not be sand, and are octually polyerized gypsum, as the gypsum found mixed throughout the fill varies in size from clay size to gravel size particles. Other minor soil types found in the samples include silt and heavy (fat) clay. Again, silt size particles could actually be

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gypoum. However, it is common that other materials such as heavy clay, silt, and fine said are found to sedimentary much one that comprises the formations in this area

AAS(173) classification is useful because it gives a general parameter for how a material will perform as a subgrade material for reads. The rating system assigns a designation of A-1 for the best materials and A-8 for soils that are not satisfactory for use in read building. The highest rated fill material is designated as A-4, which corresponds to a "fair" rating. The vest majority of samples were estegorized as A-6 or A-7-6 which are designated as the poorest suits to use. Fine grained soils with a high plasticity such as these are very susceptible to deformation when wet, and retain water much longer than granular soils. They also have proclivity for shreek and swell with moreture changes, which leads to instability to the road bed and failure of the pavetient surfacing.

The Liquidity Index. It. was also computed for the samples. This index is a pure number that nots as a scale in quickly show what consistency a clay soil is presently in For numbers less than 6 (negative integers) the material is a solid or semi-solid consistency. Numbers equal to or greater than 0 but less than 1 mean the clay has a plastic consistency. For numbers equal to or greater than 1, the material acts as a liquid. About 2/3 of the samples have an index number less than acro. Most of these samples are in the semi-solid range, with only one sample being well into a solid consistency. The rest of the samples are approaching the plastic limit. The majority of the other samples are plastic, and range from just above the plastic limit, to approximately halfway through their plastic range. The material found in borehole 23-1004 is at the liquid hast

4. Gypsum Content

Because it is visually obvious that the samples taken from the fill zones, both in 2021 and 2023. are intermixed with pulverized gypsum. Western-EOI endeavoned to find a reliable method to determine the amount of gypsum in the samples. Research into this area included using chemical testing, x-ray diffraction, and gas chromatography-mass spectrometry (GC-MS). We found that these methods were not suitable for the soils sampled at Hideaway Hills; chemical testing requires wet methods which are very time consuming and not suitable for high gypsum content x-ray diffraction can be unreliable due to the orientation of gypsum crystals, and GC-MS gives a breakdown of the elements contained in a sample which may or may not all be related to the gypsum in the soil (Omma, 2016). Research has been performed periodically over many years into using the thermal changes of gypsum to allow gypsum contents of soil to be ascertained. Western-EGI settled on a method developed by El-Sayed E: Others called OMRAN GypSini. The method takes advocatege of the fact that when heated at certain temperatures, gypsum loses. its crystal water component as it decomposes to bassinite and then anhydrise. This loss of crystal water can be measured, and the amount of gypsum in the sample is then calculated. Samples are dried at 70°C prior to the conversion process so that maisture in the sample does not affect the calculations. This temperature is high enough to drive moisture from the sample but does not start the conversion process of gypsium to bullydrife. Samples are also cooled in a desiceator so that atmospheric humidity does not affect results. In his poor reviewed research, Omran showed that this method is as accurate as accrone precipitation and silves-get methods currently used to determine gypsum content of soils and has higher repeatability than either of those methods. Based on research imo this method, and calibration tests undertaken by Western-EGI, it is nuropinion that the method produces highly accurate results.

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In order to conclusively determine the amount of gypsum that has been mixed into the fill material, all samples of fill retrieved from the site in 2023 were subjected to the OMRAN GypSim test method. Using this method, Western-EGI determined the gypsum content of the samples as a percentage of mans. Western-EGI used the specific gravity of soil solids that was determined during the 2021 testing and the specific gravity of the gypsum onsite as determined by Hoskims-Western-Sonderegger, Inc. in their 1985 Nansous (sio) Gypsum Study prepared for the South Dakota State Carnent Piant to convert the mass percentages to volume percentages. This was done so that the volume of material that can be potentially lost from the fill could be calculated. The testing revealed that the fill samples have a gypsum content range of between 1.72% to 80.09% by volume. The average was found to be 25.87% and the median was found to be 20.61% by volume. Results of gypsum testing are found in Appendix D. The content was highly variable throughout the subdivision, indicating that gypsum was haphazardly mixed into the fill during the reclamation of the surface mine.

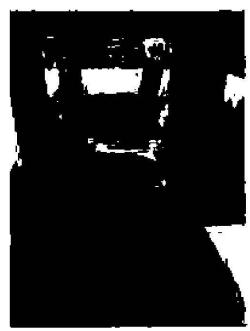
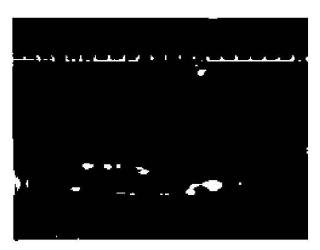


Photo 4 - Samples cooling in desecrator after fire mainture is driven off of samples of 70°C (150°F)

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Placks 5 - Malanting Mills [Mill remailer plants] in health were to programtion of communing approximations in the compiles as analysistic by having in Les 1507 (1275-1497).

The amount of gypsum contained in the fill material that supports the Hideaway Hills subdivision creates concerns for the overall stability of the subdivision. The primary concerns are the increased rate of percolation that is allowed into the find grained material and volume loss due to dissolution of the gypsum. Because the gypsum is mixed heterogeneously through the fill material, settlement caused by dissolution of the gypsum would be very differential, which is very destinantal in structures and infrastructure.

The fine-gramed fill material predominantly classifies as lean clay (see Section 3, Lahwatary Lasting). Lean clay typically has a low permeability value if it is properly compacted, with an average coefficient of permeability (k) in the range of 10° cm/s or 1 ft/yr (USBOR, 1987). Because of this, the moisture content of the fill would be expected to decrease with depth in areas unaffected by groundwater. However, in-situ moisture testing conducted on samples of the fill material show that in-situ moisture contents are relatively high even at depth in the borcholes drilled for this investigation. This is primarily due to poor compaction of the fill material, but is exacerbated by the presence of gypsum through the soil. As the finely putvertized gypsum dissolves, it creates piping through the soils, which creates a conduit to allow more water to easily enter the subgrade, leading to the dissolution of more gypsum. Sodie soils are also common in areas west of the Black Hills (Carlann, 2019). The addition of gypsum to sodie clay soils is a common practice to increase the permeability and drainage of these soils by ion exchange with the clay minerals. Again, this allows water to more readily enter deeper portions of the fill.

Damage to surface structures from gypsum being mixed into soils is a well understood problem in the Black Hills. In their paper Gypsum Foundation Problems in the Black Hills Area, South Dutota, Rahn and Davis of the Department of Geology and Geological Engineering, SDSM&T report in reference to gypsum subgrade problems:

The worst seem to be related to howers built on fill that contains gypanin. Water ingress allows for solution of gypanin and piping, leading to settlement and cracking. Typically,

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distressed houses have roof drains that discharge rainwater within 1m of the trucked foundation. The problem is particularly acute to ravines which were filled and now collect rainwater or street runoff (Robn & Arden, 1996).

This excerpt describes general conditions at Hideoway Hills accumulty. The strip mins areas act as filled durinages that collect runoff from adjacent streets and infrastructure, and it should be expected that significant problems are arising from the ingress of water into this poor backfill material. Durinage from downspouts on bonies in the neighborhood can certainly contribute to scaleguents observed in close proximity to the homes, but these issues appear to be less of an issue than the extensive settlement readily observed in gutter and drainage systems, streets, and areas of yards well away from the perimeter of bouses. The settlement observed in these areas is almost certainly attributable, in large part, to the loss of gypsum from runoff entering the subgrade fill at these points.



Macin 5 - A Depart have on the edge of Dasis Dr. phytographied in Later of 2023, subgrade master to have test, Staby that to Stating from this subgrade of pulsaritysi grammy in 03 monerous leading to an impact white inflictation. If has been resemblely participal

In an effort to determine the magnitude of the problem created by the presence of the pulverised gypsum in the mine backfill, Western-PGI created a terrain model from serial survey data collected at the subdivision in October 2023. Subsurface information gathered from the 2023 drilling program was used in conjunction with the gypsum content test data to calculate a conservative approximation of the amount of pulverized gypsum contained in the fill.

To estimate the volume of fill under the subdivision, two surfaces were created in an Aquodesk Civil 3D model. The upper surface was created from an aerial survey of the subdivision performed on October 4, 2023. Information from this aerial survey was used to estimate the existing surface of the subdivision. To model the bottom of fill surface, drill log information was evaluated to estimate the elevation of the bottom of fill material at each borehole location. The boundary where fill material was estimated to begin was delineated by using the enidpoint between burcholes where no fill was discovered, and adjacent boreholes where fill material was encountered. The boundaries of the fill areas were delineated at the existing ground streake

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elevations with 0.00° depth of fill and allowed to alope to adjacent bottom of fill elevations. Feature lines were drawn between the bonom of fill points to extimate the bonom of fill surface.

Once these two surfaces were created in Autodesk Civil JD, the volume between the two surfaces was estimated by using the average and area mathed, employing 17 cross sections at 100' intervals. The existing surface created from the acrial survey comains the top of all surfaces observed from the air including houses, trees, vehicles, etc. Since these objects need to be removed from the volume of fill calculation, a simple surface comparison would provide an erroneously high volume. To eliminate this, the cross sections were created and these objects were omitted from the cross sections while estimating the cross-sectional areas. Additionally, the existing surface was lowered by 6" to account for aidewalks, roads, e.g., and any houses that were enganteered by a cross-section were shown to have an 8' basement to eliminate basement volumer in the fill calculation.

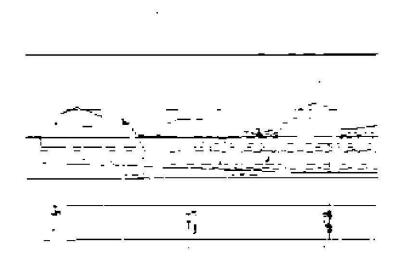


Figure 3 - A paperal group syction want to compute βB with the The total distribut the ϕ converged electricism, the green local B (is converged B surjects

The average end area method was used to estimate the volume of fill under the subdivision. Once the area of fill was drawn and determined in each cross section, the interval between cross sections was added to the spreadsheet and the volume was estimated. See the attached Table I for calculations. It was estimated that 21,250,205 cubic feet or 787,045 cubic yards of fill are under the subdivision. There were two mining permit boundaries provided in a Guogle Earth kml file titled Permit 424 area kml. These two areas were imported to the model as the north permit boundary and south permit boundary. The model was bounded by these two boundaries and the same volume calculation was performed. The volume of fill inside the north boundary was estimated at 14,144,424 cubic feet or 523,868 cubic yards and the volume of fill inside the south boundary was estimated at 1,074,177 cubic feet or 62,007 cubic yards.

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Gypsom content results obtained for samples taken from the 12 borcholes located in the fill areas were used to average the percent gypsom content in each of these borcholes. To estimate the potential volume loss if the gypsom in the fill material dissolved, the average percentage of gypsom content by volume was multiplied by the depth of fill in each of the borcholes that had gypsom content data. Results from this calculation are shown in Table 4. To model and demonstrate the estimated potential for volume loss, the Average Gypsom % x Depth of Fill were mapped with the data that was available. Linear interpolation was used through borcholes that did not have gypsom content data. The results are shown below and in Appendix E.

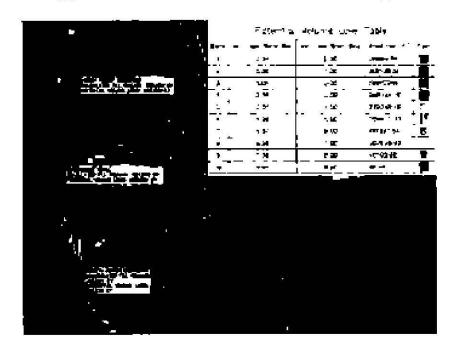


Figure 3. Isoppon may showing grown has posteriod encount the entire subdivision. Althoug permit boundaries are also translate to to the state

To estimate the total volume of gypsum in the fill material, the volume under the surface of the isopach map was ran in Autodesk Civil 3D and the result was 220,656 cubic yards of gypsum. Once again, this model was bounded by the north and south permit boundaries and the volumes were estended the model estimated the volume of gypsum inside the north permit boundary to be 140,700 cubic yards and the volume of gypsum inside the south permit boundary to be 18,236 cubic yards. Tables of the calculations for the model are found in Appendix E. The parameters chosen and inputted for the model were selected to purposely produce a conservatively low estimate of the amount of polyerized gypston that exists beneath the subdivision.

We developed the model and performed the analysis independently from information that exists for the State's mining operation. This was purposely done so that the model was only calibrated to physical data that was collected during investigation and testing of the fill materials and surveying obtained in the fall of 2023. In an effort to determine how the model aligned with records that exist for the strip mine's historic production, Western-EGI requested a summary of

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the research conducted by Tonn R&M regarding historical production records, and John R&M producted the memo found in Appendix F. According to this information, what records exist indicate the State mined at least 135,727,86 tons of gypsum and moved a minimum of 140,000 tons of overhunden materials. Using a bulk density of 145 PCF for the gypsum (Hoskins-Western-Souderegger, Inc., 1985) and the same bulk density for the mudstone overburden (Manger, 1963), this computes to a total volume of 69,081,9 CY of gypsum removed from the mine lease and 71,519.8 CY of overhunden material moved.

There is obviously a significant discrepancy between the estimate obtained from the model and the volume obtained from the State's records. This discrepancy is likely from the timited number of barcholes drilled in the fill area, and attributable to the lack of record keeping made during mining operations. In the summary memo, Trans R&M indicates that documentation from that time states that records were not precisely kept, and years of production were not recorded. Based on the known lack of record keeping and the higher-than-expected fill volumes computed from the model, it is our optains that the amount of fill that exists in-situ at the subdivision is more than what is computed from the State's records. However, if unly the State's records are used the computation of material moved, a significant amount of pulverized gypsum and void space exist beneath the subdivision. Investigations of portions of the subgrade conducted by American Engineering Testing, Inc. in 2009, specifically a portion along Blue Hell Drive, the fill encountered was pourly compacted (AET, 2009). It is our opinion that these conditions are representative of the general compactness of the fill across the subdivision, since there would be no reason that compaction effort would have varied during reclamation operations. From the supergoes, the average dry density of the fill material was 97.5 PCF to 80% of the maximum. dry density (MDD) as defined by ASTM D1557 Sunnion! Test Methods for Laboratory Compaction Characterizace of Soil Using Modified Effort (56:000 ft-lbt/)13 (2.700 k/v-m/m3)). ("Modified Proctor"). This corresponds to a 20% unit space throughout the fill, that is taken up by water and uir, 1 ab testing performed as part of our 2023 georechnical investigation indicated. that the fill material had an average in-situ moisture content of 20 4% (average of values found in Section 3. Laboratory Testing). Lab testing also found that the fill material has a specific gravity (SG) of 2.81. Using this data, the fill under Hidesway Hills is comprised of 78,198 CY of solids, 44,826 CY of water, and 17,578 CY of gas, Of the solids, 20,230 CY are gypsom using the overall average gypsum content of 25,87% gypsum content found through leating, Convenient consultation or settlement is attributable to the values loss of the void ratio (r)that is occupied by gas and water. As discussed in this section, the nativerzed evocum is susceptible to dissolution and transportation by water out of the fill. If a typical void ratio loss of 50% is assumed through comolidation and 100% of the pyraum is susceptible to less through dissolution, there is a potential volume loss of \$(.430 CY (~36%) beneath the subdivision. Due to the pear recent keeping, this volume is likely as underestimate and should be considered a lower bound.

5. Swell/Collapse Testing

Home inspections performed by Western-EUI revealed evidence that floor slabs in some basements are heaving. There is also evidence that heaving has recurred under other flatwork such as sidewalks and driveways. Murine shales and mudstones often have a proclivity for swell, and the FHWA reports that South Dakots has widespread expansive soils in the state. As part of the testing program for the subdivision, we performed swell/collapse testing for a sample of the Spearfish Formation fill material and Sundance Formation fill material used in reclamation of the

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Testing of the Sundance Formation material found that the material has a low proclivity for swell when wetted but does exhibit swelling at lightly landed conditions of 500 paf or less. The material was found to exect a maximum strain of 0.51% when allowed to swell with a confinement pressure of 500 paf. At 250 paf, it exerted a strain of 0.36%. Materials generally exect higher strains at lower confinement pressures. The sample used for the testing was obtained with a Modified California Sampler and was relatively undistracted. Different particus of the sample are used for the different leading increments. The increase (it strain at a higher confinement pressure is most attributable to variations in the fill material itself. The overall results of the test correlate well, and the results at the lawer confinement pressures are close enough to each other to be considered reasonable.

For the fill material derived from the Spearfish Formation, a reconstituted sample was prepared. Swell testing found that the Spearfish derived soll excised a maximum strain of 0.76% at a confirming pressure of 250 psf. This also indicates that this material has a relatively low properties for swelling when wetted. It was found, however, that at higher confirming pressure, the quaterial exhibited collapse. When subjected to a confining pressure of 2000 psf and wetted, the material that a strain value of -0.14%.

These tests were conducted in accordance with ASTM D4546-21 Mandard Test Methods for Cine-Dimensional Need or Collupse of Soils. For the Specifish Formation derived fill, Test Method A was used, which is the procedure for testing reconstituted specimens to simulate the field condition of composted fills. Recause the reconstituted sample exhibited collapse potential during the test, the fill material must have properties that allow it to form conditions that lead to collapse in-siru. These conditions would most likely be formed during placement and compaction of the metorial, but can be formed under other circumstances as well

Collapse is a specific protechnical hazard and is not sympnymous with consolidation or settlement, although it can present in a very similar feshion to consolidation in under certain circumstances. Collapsible soils are defined as any unsaturated soil that goes through radical rearrangement of particles and greatly decreases in volume upon Wetting, additional loading, or both (Knodel, 1992, pg. 7). These types of deposits are found all over the world, but are predominantly found in arid or dry regions, and are most commonly formed by collusini or low weight affavial deposits, sealign and looss deposits, decomposed seidic igneous rock, and mannuide loose fill. The basic conditions necessary for the creation of collapsible soil structure is for a sorted, coarner soil such as fine sand particles to be bonded at their contact points by clay or silt. Other specific conditions can also lead to a similar arrangement, such as soils at a water-air interface being held together by surface tension (capillary munion) when in a semi-saturated condition. Once water is introduced to the soil structure, or loading stress exceeds the shear. strength of the bond of both, the soil cultopses. Collapse can happen over a significant amount of time, but is often seen as a large and sudden actilement once the sort becomes saturated. inundation is typically the result of broken waterlines, leaking sewers, drainage from pondspuole, etc., or any other source that would couse a significant amount of water to accumulate such as a large storm or flood. Because soil collapse is usually sudden, it creates significant damage to structures. Our review of literature did not yield information about known natural soll deposits in South Dakota that are prome to collapse. Soil conditions at Hideaway Hills that could

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cause collapse would be a direct result of the poor compaction of fill materials. In areas where the fill has a high void ratio due to poor compaction and has not been saturated since placement, there is the potential for collapse conditions to be present.

Based on hydrological data for this region, soil types, and usage, it is reasonable to set the seasonally offected depth of soil for swell/cullapse or 10 feet. The seasonally affected depth is the depth of soil that is likely to see variation in moisture content due to precipitation, seasonal variations, and irrigation. This depth correlates well with the moisture contents found during drilling and sampling operations. Using this value, materials from the Sundance Formation could induce heave up to 0.6" in slabs or flatwork with a self-weight plus dead loading of 250 psf. For the Speurfish derived material, heave could be as much as 0.9". Lighter loaded slabs and flatwork could see higher amounts of heave. Collapse under heavier loading conditions could be as much as 1" for the same active depth of soil, but the sudden settlement would be expected to cause more damage to structure than more gradual settlements of the same magnitude would produce. Results of the testing are found in Appendix D.

V. INFRASTRUCTURE CONDITION

A review of the construction plans that exist for the subdivision indicate that grading for the subdivision was relatively minor, which is expected so that the development would remain economical. Estimated grading quantities indicate that excovation exceeded embankment by approximately double, and grading mostly occurred in the street sections. The plan and profite should doveloped by Renner & Sperlich Engineering Co. show that the water and sewer lines are smally supported by mative subgrade materials and the mine till, it also appears that dry utilities are also predominantly supported by materials that were placed or existed prior to development. There is no plants, reports, or other indication that we are aware of that explain where the excess material cut during construction was placed. It is possible this material was "wasted" on the lott in the addivision, or it could have potentially been used to fill areas outside of the subdivision, such as Hideaway Hills II.

As discussed previously in this report and previous reports that we have compiled for this project, it is obvious from visual inspections made throughout the neighborhood during the source of our investigations that streets, sittewalks, and guiters are exhibiting signs of significant distress. This includes patholes, sagging grades, heaving, alligator cracking in pavement sections, cracked and broken concrete sections, and sinkholes. Extensive patching of the streets has occurred in the past. This is all a result of settlement of the subgrade materials, either through softening of fine-grained materials or the loss of gypsum out of the fill. In the case of the subsidence features found along East Daisy Drive, it is the result of subsidence of the roof of the abandoned underground mane.

Direct evidence of damage to the water system consists of the exposed and broken waterline in the large subsidence feature on East Dalsy Drive. This waterline break has resulted in the loss of redundant tooping for a portion of the water system, and it is currently unknown if the system can support adequate flow under fire fighting conditions. There is no records of pressure and flow testing being conducted for the hydrams in the subdivision. Water quality in portions of the system may also be affected of the break has created dead end runs in the system which would cause water in the lines to stagnate. Again, no records of flushing and lessing from hydrams has

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been found. The condition of the rest of the system is currently unknown. Although there isn't signs of a waterline break or leakage at the surface anywhere in the subdivision, it is known from Northdale Sanitary District's (NDSD) records that or least 25% of finished water that they produce is unaccounted for every year. There are probably several reasons for this including faulty meters, unmetered connections, and leaks in the system. Water leaking into the subgrade of Hideaway Hills would be of particular concern, since it would haven the settlement of soft granted fill soils, dissolution and lose of pulverised gypsum in the fill, and crosson and weakening of the underground mine's roof.

As part of our investigation of the condition of the infrastructure, Western-EGI reviewed reports prepared for NDSD by Respet regarding the current condition of the sewer system. Rob Gerrard and Brunch Lymen also reviewed the video of the sewer system that was contured as part of Respec's studies. As noted in their reports, the sewers system is exhibiting signs of distress and settlement in several location throughout the subdivision, but especially along Dony Drive. The sower main has large belies in several server raps, separating joints, and deformations that appear to be areasing caused by about settlement of the pipe. The section of the sewer main near the intersection of Hine Bell Drive and Daisy Drive appears to have backed up soveral times in the past. The condition of the sower main is considerably worse where it is built on the fill materials placed to reclaim the former strip name than its condition over the abandoned underground mine. This is due to the settlement of the soft grained soils and loss of gypsum from the fill that supports the newer system. As the sewer system continues to settle and juints open up, it is expected that sewage will be allowed to leak into the suburade. This will accelerate loss of gypnum and serdement of the subgrade, in turn accelerating the settlement and dysfunction of the system. Duringe to the system from collapsing mine voids would be expected to be sudden and catastrophic, and result in sudden failure of the system. It is our understanding that NDSD is pursuing a project to repeate an least part of the sewer system due to the issues that the system is experiencing.

VI. CONCLUSIONS

Significant and myrisd geotechnical ligareds exist throughout the subsurface of Hideaway Hills Subdivision. These include the direct danger of roof collapse of the shandooed underground mine workings, gypsum karst conditions being created in the remaining ore body adjacent to the mine workings, unsuitable fill material consisting of weak, fine-grained soils and gypsum being used for reclamation of surface mining, poor workmanship being used in the reclamation work, and the interaction of estural and artificial aquifers with the poor fill materials and mine workings

Based on historical documentation and reports from caving experts that entered the mine offer the April 27th, 2020 subsidence event, it is probable that the underground mine workings extend further than what has currently been mapped. Drilling indicates that water is allowed to enter the workings and a moving to locations down dup in the Spearfish Formation. This water is creating gypaum karst that extends away from the edges of the underground mine. Because of this, homes hold even the mine workings and karst areas are at risk of scrious damage or loss from collapsing substantiate voids. These collapses also present danger to infrastructure and utilities that service the subdivision.

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The extremely poor fill material that was used to reclaim the starface mining operation presents several hazards to properties and infrastructure as well. The clay soils derived from the Sundance and Spearfish Formations used for reclamation are extremely vulnerable to losing strength with increases in moreture. Many of the samples taken during the 2023 investigation revealed clay soils that are in the plastic range of consistency and are likely to deform under load. Drainage is readily allowed to enter this fill material, decreasing the arrength of these materials even mure.

Available construction plans show that grading operations for the development of Hiddowny Hills primarily consisted of cutting existing grades down to create flatter slopes for the streets in the subdivision. This includes areas that were reclaimed with poor fill in the strip mine area. Wat utilities were constructed in the mine backfill or native materials. Dry utilities are also printarily supported by materials that weren't worked as part of the development. Sentements in the wer utilities in the fill areas are directly attributable to the conditions of the mine backfill and its performance. A considerable amount of the sentlement seen in surface infrastructure is also antibuughle to the performance for the fill used for nunc reclamation since the streets are predominantly in our areas. A good example of this is the work performed by AET on Praine Violet Lane.

Gypsum content testing found that the fill trutered contains high amounts of gypsum, which is a very serious threat to the stability of the subdivision. Gypsum increases the perosity, and therefore, the perosability of the fine-grained soils the fill is made of These fine-grained soils lose strength when their moisture content increases. The gypsum itself is highly susceptible to dissolution which leads to piping and the creation of voids in the fill. Because the fill is highly variable in both its composition of clay materials and gypsum content, settlement of clay and collapse of voids in the fill soils is unpredictable. This will lead to large differential settlements of homes and infrastructure throughout the subdivision, which they have not been designed to withstand. Some proclivity for swell under high leadings will exacertate elevation breaks in streets and sidewalks, further reducing the effectiveness of dramage systems. Evidence of soil collapse is also a significant issue.

Collegse is a serious peotechnical hozard, as it happens suddenly, unlike softening of clay stills which occurs over a longer timeline. Because of the sudden nature of collegse, it can cause more significant damage to buildings. We could not find reference to collegishle soils being reported in South Dakota, so the potential for collegse is attributable to the composition of the fill soils. Collegse occurs in fine soils with high void ratios with soil particles bound rogether by comenting or collegion. This building is lost upon saturation of the soils. This condition is not known to naturally occur in soils deposits in this area but would be artificially created by talking the fine-grained soils with gypsum, the clay particles remain bound by cohesion and the void ratio is increased when gypsum is lost through dissolution.

Most consideration of the houses that exist at the subdivision have focused on the eventual collapse of the mine roof of the abendoned underground mine. While the subsidence of this mint will centually result in sudden and estastrophic damage of infrastructure, utilities, and homes built over it, the poor (ii) used to reclaim the strip mine passes an equal or greater potential for damage. Settlements attributable to the (ii) will generally be gradual and steady, but the potential

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evists for more sudden changes in occur if rapid softening, washout of poliverized gypsom, or (especially) if collapse of the fill takes place. Agess of the subdivision that can be impacted by the peop (fill and centaryly larger than place that could be affected by the underground mine voids.

the subdivision is exhibiting aigns of significant distress in hornes, streets, yards, sidewalks, etc. These is also evidence that a portion of the water system is compromised, a significant amount of finished water is unaccounted for and may be entering the subgrade, and the sewer system is exhibiting significant distress in portions of the subdivision. This distress will continue to get wome as actilement, subsidence, kurs), piping, consulidation, gypaum less, and collapse progress Stabilization of homes and infrastructure are not feasible, because there is not a practical method. for stabilization of all fill moterial supporting water, sewer, gas, and electrical lines. Streets and guners cannot be stabilized withour reconstructing them with subgrade materials that are appropriate for road building. This would require the removal and importation of a massive amount of material. Existing underground infrastructure would need to be removed, and mussive amounts of fill material would need to be removed and replace with appropriate materials, before the infrastructure is rebuilt. Underpinning discressed homes would exceed the value of the properties and could be difficult to implement due to the presence of groundwater near the redimentary bedrack. Because of the Impracticality of stabilizing the fill materials, homes, and mitigating the underground mine, it is our opinion that the best use of the land that comprises the appelly is coming in the great of the abandoned underground raine and turning the ordine development into open space.

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Affadavits and Depositions

Affidevy of Robert Gerard, PE

Affidovit of Nucholas Anderson

Affidavir of Dr. Bo Yu.

Deposition of Lyle Dennis Taken by John M. Fitzgerold, Nov. 18 2022

Deposition of Lyle Donnes Taken by David G. Crooks, May 22, 2023

Deposition of Fred Carl Taken by David G. Crooks, May 27, 2023.

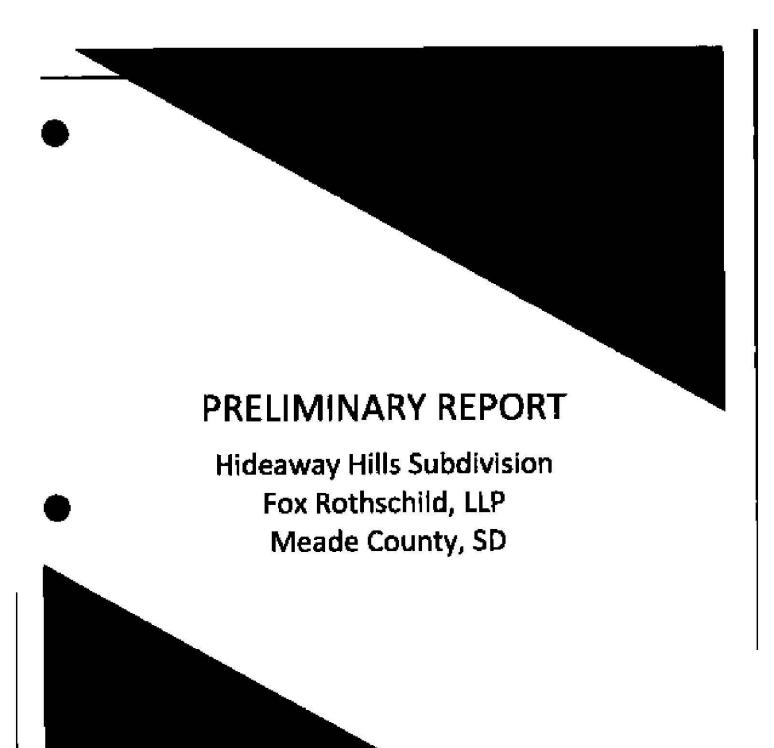
Deposition of Robert Tennie by Terra Lorson, Kathleen Barrow, and John Fitzgerald. December 12, 2023

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APPENDIX A

PREVIOUS REPORTS



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EXECUTIVE SUMMARY

The Hideaway Hills Subdivision is located in the unincorporated Blackhawk area of Meade County, SD. Blackhawk is generally located along Interstate 90 between Summerset, SD and Rapid City, SD. The subdivision itself is situated between the I-90 right-of-way and Sturgis Road. The Rapid City, Pierre & Eastern, Inc. (RCPE) Black Hills Subdivision Branch Line lies between Sturgis Road and the western property lines of the subdivision lots. The topography of the area is generally rolling hills and plains with mixed grassland and forested vegetation. The area is generally developed as mixed use residential, commercial, agricultural, and industrial properties.

The land that makes up the subdivision has changed ownership and usage many times since its patent from the US Government in the late 1800's. Although originally used primarily for agriculture, it has at several times in its history been used for mining gypsum. These mining activities have included both underground, room-and-pillar mining operations and surface, "strip" mining operations. A portion of the subdivision also had sewage lagoons constructed on it.

On Monday, April 27th, 2020 a major subsidence event occurred when the roof of a portion of the underground mine collapsed. This subsequently led to utility breaks and damage to other infrastructure and homes in the immediate vicinity of the major subsidence. This led to the exploration, photographing, and preliminary mapping of the mine workings in the areas around the subsidence that were accessible from above ground.

In February of 2021, Fox Rothschild, LLP contracted Western Engineers & Geologists, Inc. (Western) to perform research, data collection, and analysis of the condition of the historic mines and act as expert witness for Fox Rothschild on behalf of their clients. Since being contracted, Western has performed preliminary research into the mining activities, general geology of the area, and preliminary research into property ownership records. Two members of our staff, Rob Gerrard and Brandt Lyman also conducted onsite inspection of the subdivision and several homes in the subdivision during a trip to Hideaway Hills on March 29th-31st, 2021.

Our field investigation revealed that there is likely a significant risk to homes built over and around the abandoned underground mine workings. There also appears to be risk of significant damage to homes from soils used in the reclamation process of the strip mine and surrounding areas. Besides the obvious mine collapses in the area, there are numerous depressions and uneven features found throughout the subdivision that are characteristic of sinkhole and trough subsidence caused by collapsing underground mines. However, it is not possible to determine which of these features are the result of subsidence of the mine and which may be caused by

geotechnical or workmanship issues because of a lack of investigation of subsurface conditions. Further investigation such as electro resistivity, seismic, and especially drilling and coring are likely to find other areas that at risk of catastrophic subsidence of the mine workings.

This report contains the details of the preliminary investigative work that we have performed to date. It also contains explanation of further work that should be done at the subdivision to have a full understanding of the conditions and risks that exist at the subdivision. The conclusions, opinions, and recommendations contained in this report are subject to revision once that work is completed.

I. BACKGROUND

Fox Ruthschild, LLP contracted Western Engineers & Geologists (Western) to perform research, data collection, and analysis of the condition of the historic mines that encompass a large portion of the Hideaway Hills subdivision in Blackhawk, SD. On April, 27th 2020, a large subsidence event occurred in the northern end of East Daisy Drive. It was initially believed that the subsidence was due to an unmapped cave, and the opening and adjacent tunnels were explored by caving experts. It was soon determined that the collapse was due to the failure of the ceiling of an abandoned mine.

Subsequent research commissioned by Fox Rothschild indicates that underground mining began in the 1910's. Room-and-plilar mining methods were used, and there is some evidence that two levels of underground mining have occurred. In the late 1900's, strip mining operations were undertaken for a portion of the area. Mining was conducted by two private corporations and finally by the State of South Dakota for use in the production of Portland Cement. The extent of final reclamation performed at the site is not documented. It is understood that the mining pertuit was vacated, and the area was reclaimed as pasture land. However, the land was sold to a private owner by the State of South Dakota in 1994. In 1996 the property was split into tracts, and afforts to subdivide the tracts soon began. The Metale County Board of Commissioners approved a plat for the first lots of the Hideaway Hills Subdivision in October 2002. It is unknown if further reclamation work, rework of the reclamation work, or changes or filling of the mine workings occurred during development of the subdivision.



Figure 1: Large Subsidence Feature Laft by April, 27th 2010 Event.

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Rob Gerrard and Brandt Lyman with Western travelled to the site and conducted visual inspections of the subdivision and several homes March 29th-31st, 2021. The purpose of this site visit was to familiarize Western with the subdivision, and begin collecting data for the purposes of analyzing the existing mine workings and reclamation efforts, and to determine the extent of continued risks to the homes in the subdivision. The conclusions, opinions, and recommendations given in this preliminary report are based on information we have obtained from Fox Rothschild to this point, and observations and measurements made or taken during our initial inspection of the subdivision. Western is currently in the process of designing an initial drilling investigation plan, and this future investigation will collect extensive data to allow us to have a more complete understanding of the risks associated with the abandoned mine workings and reclamation efforts. This may also lead to modification or changes to the conclusions, opinions, and recommendations included in this preliminary report.

II. SITE INSPECTIONS

Two primary objectives were completed during our site visit. The first objective was to investigate the infrastructure and exterior yards of properties that were accessible to us during the visit. The second objective was to visually inspect homes throughout the subdivision to determine the extent of damages to homes at various distances away from the known subsidence areas. These objectives were achieved by walking the public rights-of-ways in the subdivision and entering properties that we had permission to access.

It is evident that the general street and drainage infrastructure throughout the subdivision is in poor condition. Extensive linear and alligator cracking in the asphalt paving sections is present throughout the streets of the subdivision. Obvious settlement and potholes are also common throughout the streets. Gutters are settled and broken in various places throughout the subdivision. Other evidence of damage that is common in the subdivision is smaller holes in the edges of the pavement where it meets the gutters. It is not obvious from the surface what has caused these features; however, it appears that they are allowing a significant amount of runoff to enter the subgrade throughout the subdivision. The asphalt is typically not extended to the concrete gutter sections, and areas where the edge of asphalt is lower than the concrete gutters is found throughout the subdivision. These features are concerning, because it appears that a majority of the runoff generated by the streets or conveyed to the streets from the homes ends up entering the subgrade soils, which is leading to further damage of the streets and drainage systems, and potentially weakening the mine ceiling in undermined areas.

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Figure 7: Typical sagging of asphalt edge and cracked asphalt allowing water in infiltrate subgrade sails. These features are commonly found throughout the subdivision.

Several of the properties at the site have depressions in landscaped areas that are typical signs of potential sinkhole subsidence features. Some of these depressions are in the vicinity of utilities, but many are not. It is unknown at this time if these depressions correspond to undermined areas. However, these features could be early signs of the mine ceiling collapsing and rubble propagating to the surface.

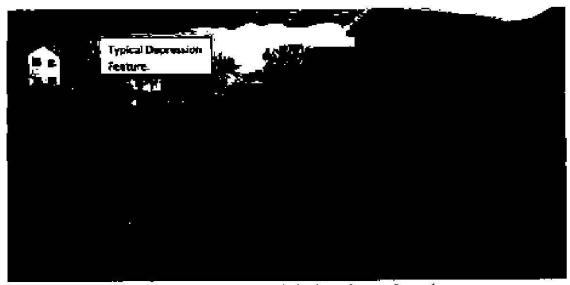


Figure 3: Potential subsidence features are evident in the landscaped areas of several properties.

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Western performed visual inspections of six homes. The homes included residences that have been abandoned and are near the April 2020 subsidence event, homes that have experienced distress in the past and currently, homes that are near the subsidence event but not exhibiting distress, a home that is at the edge of the subdivision and not exhibiting distress, and one home that is outside the subdivision but is exhibiting distress.

All of the homes inspected are currently habitable and are inhabited with the exception of the abandoned home located at 7053 E. Daisy Dr. Inspections were conducted with the permission of the owners, and in most instances the owners were present when inspections were made. Our inspections were visual only in nature, and no siding, drywall, or other materials were removed to determine the condition of structural elements that were not visible. One exception was made at 7053 E. Daisy when the earpet in the basement family room was pulled back so that the concrete slab and perimeter wall joint could be viewed. This was done by permission of the owner and the earpet was put back in place after photos were taken. Differential elevation surveys were taken in some of the homes to determine the amount of settlement and/or deflection of floors and walls in the homes. A brief synopsis of the conditions found at each home is given below:

7053 E. Daisy Dr.

The home located at 7053 E. Daisy Dr. is approximately 250 feet north of the April 2020 subsidence, and historical photos indicate that it is likely undermined. This home is currently abandoned, and is showing signs of distress and settlement. Although the known subsidence event is located south of the home, the primary settlement of the home is occurring along its northern wall. This indicates that failure of the mine roof is likely occurring in various areas, and may not continue to collapse outward from the holes that have already opened to the mine. Cracking was observed throughout the home, primarily at ceiling corners. This type of cracking is commonly seen in houses that are experiencing active settlement. Sequential cracking was also observed along the east and west perimeter walls of the foundations. This bowing type cracking is consistent with expected cracking from differential movement of the northern wall. The northern perimeter wall was found to be 1/2" to 1" lower than the floor slab. The level survey indicated that the slab has also experienced settlement towards the north. Water damage to the ceiling drywall was found in several location in the home, indicating that the roofing system has failed. It should be noted that our investigation did not determine if this failure was a result of damage from settlement, damage from wind or other weather events, or a combination of factors. Without extensive mitigation of subsurface conditions beneath the home, which would likely include mitigation of open mine workings, and rehabilitation of the roof and foundation, it is our opinion that this home will be a complete loss.

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Figure 4: Typical cracking found in the western perimeter wall of the home. Cracking indicates that the foundation is beginning to fail from differential settlement.

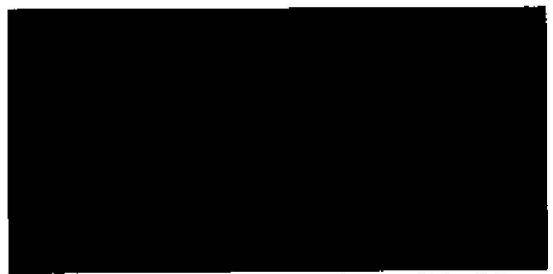


Figure 5: Typical distress cracking at oriling corners from differential movement of the home. Similar cracking was found throughout the home.

7020 Daisy Dr.

This home is located approximately 225' northwest of the April 2020 subsidence, and is potentially undermined or at the edge of the underground mine workings. The home was occupied during our inspection. Minor cracking was found at ceiling corners primarily in the front living room and entryway. The cracking could be indication of settling beginning to occur.

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The homeowner indicated that he has not experienced any problems with the home. Cracking should be periodically monatored to determine if it is becoming more significant, or if sudden changes happen, which could be indication of active subsidence of mine workings.

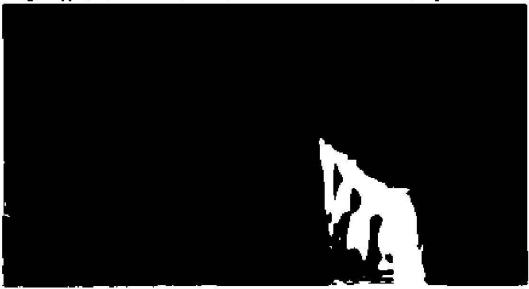


Figure 6: Typical minor cracking found in the home

6705 Meadow Rose Laur

This home lies at the west edge of the subdivision, and has not experienced significant problems. It is located approximately 1,240 feet southwest of the open April 2020 subsidence. It is unknown if the home is undermined, or its proximity to abandoned underground mine workings. The home was inhabited at the time of our inspection. Minor cracking was found throughout the home. It is currently unknown if this cracking is related to past mining operations or reclamation of the mines. Cracking should be monitored for significant or sudden changes.

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Figure 7: Typical minur cracking found in the home should be monitored for significant of racking changes.

5150 Prairie Violet Lane

5150 Prairie Violet is located approximately 700 feet southwest of the open subsidence. It is unknown how it is positioned in relation to historic mining activities at the subdivision. The home was occupied at the time of inspection. The home is in good condition, and only minor cracking was found in the home. More significant cracking was found in the sidewalk, street, and driveway in front of the home. It is unknown if this damage is the result of geotechnical issues, mining activities, poor workmanship, or a combination of factors. Cracking in the home should be monitored for significant or sudden changes.

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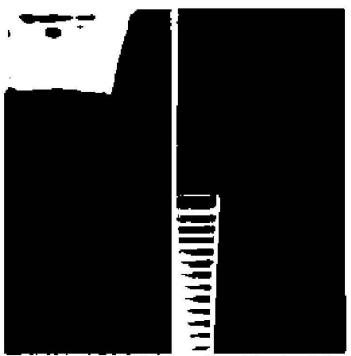
Figure 4: Damage to street and udewalk observed to front of home.

4868 Glacier Court

This home is located about 975 feet southeast of the April 2020 subsidence. It is unknown if the home is undermined or if strip mining occurred in this area. It is located in the vicinity of the historic setwer lagoons that were constructed on a portion of the land that is now a portion of the subdivision. The home was inhabited at the time of our inspection. The home is exhibiting significant signs of distress. Several cracks in the home's walls have been patched and painted in the past and have continued to widen. The homeowner indicated that some of the cracks have narrowed or closed, and then widened or opened again later. This tends to indicate that some of the distress could be the result of swelling/shrinking soils ender the home. Cracks that are continuing to develop and widen end to indicate sentement of the foundation. Streets and gutters in the vicinity of the home are also exhibiting significant distress, and an approximate 1" gap exists between the asphalt paventent and the gutters throughout the cul-de-sac where the home is located. The home has been fitted with manual crack monitors which have indicated that the home continues to experience movement and settlement. It is our opinion that this home will eventually require stabilization and rehabilitation of the foundation after the root causes of movement are determined if it is to remain habitable long term.

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Figures 98:10: Significant distress was observed throughout the home.

Another home located at 6408 W. Elmwood was also inspected. This home is outside of the current subject subdivision, and was inspected to primarily determine what homes outside the subject subdivision are experiencing. The home exhibited cracking and unevenness in its floors, which appears to be the result of beaving of subgrade soils. It is unknown at this time what georophulost conditions exact in this area and how this area relates to the historic mining that occurred at the subject subdivision.

III. PRELIMINARY ASSESSMENT

Based on information gathered during our site visit, records and mapping made available to us by Fox Rothschild, and our current understanding of the geology and mining methods used at the site, it is our opinion that there is a significant risk of further subsidence and collapse present in the subdivision. It appears that in ecojunction with the presence of unmapped, abandoned open mine voids beneath an unknown portion of the subdivision, there are significant gentechnical problems from naturally occurring deposits and improperly constructed reclamation efforts existing throughout the subdivision. There are also apparent poor workmanship issues associated with much of the infrastructure throughout the subdivision. Because of this, large amounts of most generated from melting, precipitation, and impation are allowed to enter subgrade soils and formations. This in turn likely exacerbates these issues, leading to further problems and

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ultimately allowing more water intrusion turo abendoned mine workings. This further weakens the mine ceiling, which will lead to further collapse and subsidence of the mine. Prior to the April 27°, 2020 subsidence event, the Black Hills region had experienced two years of historic precipitation amounts. It is likely that this greatly contributed to the deterioration of the mine ceiling. It is unknown how much the ceiling was degraded throughout the abandoned mine workings.

Based on reports from eyewinesses to the event as reported in local media, there was no prior indication that the mine ceiting was failing, and the collapse was sudden and unexpected by all accounts we have found and reviewed. Because of the general bardrock nature of the mine workings, it is tikely that (there subsidence events will be similar. This creates an especially hazardous situation since residents may be given little or no woming before another large subsidence event occurs.

Because so much remains unknown and unexamined at the site, we can not accurately determine the risk or timescale when future subsidence events will occur. However, it is our opinion that future subsidence events are likely. Further, it is not opinion that further exploration and study of the subdivision and miniog permit area will find other areas that are undermined or have been improperly mitigated and also pose an unacceptable life and safety risk to property owners and the general public.

IV. CONCLUSIONS

This preliminary report was prepared for our client, Fox Rothschild. 1.1 P. for their use in assessing the conditions and risks present at the Dideaway Hills Subdivision in Blackhawk, SD. The report was prepared based on information gathered from research commissioned by our client and performed by other firms, historic records and medio reports, and observations and data collected during a site visit conducted by Western. As explained in this report, we believe that significant hazards to property owners and the general public exist throughout the subdivision. However, without further exploration and study of the conditions at the site, we cannot accurately determine the extent of these risks.

We appreciate this apportunity to be of terrore. If you have questions or need additional information, please contact as at your convenience.

Sincerely.

Breed) D. Lyman, PE Principal

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REPORT OF INVESTIGATION

HIDEAWAY HILLS SUBDIMISION FOX ROTHSCHILD, LEP MEADE COUNTY, SD

Western Engineers & Geologists

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Filed on: 07/12/2024 Meade County, South Dakota 46CtV20-000295

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EXECUTIVE SUMMARY

The Hideaway Hills Subdivision is located in the unincorporated Black Hawk area of Mende County, SD, Black Hawk is generally located along Interstate 90 between Summerset, SD and Rapid City, SD. The subdivision itself is situated between the I-90 right-of way and Storgis Road. The Rapid City, Pierre & Eastern, Inc. (RCPE) Black Hills Subdivision Branch Line lies between Storgis Road and the wastern property lines of the subdivision lots. The topography of the area is generally rolling hills and plains with mixed grassland and forested vegetation. The area is generally developed as mixed use residential, commercial, agricultural, and industrial properties.

The land that makes up the subdivision has changed ownership and usage many times since its patent from the US Government in the late 1600's. Although originally used primarily for agriculture, it has at several times to its bistory been used for mining gypsum. These mining activities have included both underground, mannand-pillar mining operations and surface, "strip" mining operations at various pounts in the land's bistory. Underground mining appears to have occurred in the early 1900's until the mid-1900's, with strip mining occurring after this into the early 1900's. A portion of the subdivision also had sevage laguous constructed on it.

On Monday April 27°, 2020 a major subsidence event occurred when the roof of a portion of the underground mine collapsed. This subsequently led to taility breaks and damage to other infrastructure and homes in the immediate vicinity of the major subsidence. This led to the exploration, photographing, and preliminary mapping of the mine workings in the areas around the subsidence that were accessible from above ground.

In February of 2021, Fox Rothschild. LLP contracted Western Engineers & Geologists, Inc. (Wastern) to perform research, data collection, and analysis of the condition of the historic mines and act as expert witness for Fox Rothschild on behalf of their clients. Since being contracted, Western has performed prefirminary research into the mining activities, general geology of the area, and preliminary research into property ownership records. Two members of our staff, Rob Gerrard and Brandt Lyman, also conducted onsite inspection of the subdivision and several homes in the subdivision during a trip to Hideaway Hills on March 29°-31°, 2021. Exploratory drilling was also conducted on August 30°-September 3° and September 28°-October 1°, 2021.

Our field investigation severaled that there is a significant risk to homes built over and around the abandoned underground mine workings. There also appears to be risk of

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significant damage to homes from sails used in the reclamation process of the strip mine and surrounding areas. Besides the obvious mine collapses in the area, there are numerous depressions and uneven features found throughout the subdivision that are characteristic of sinishole and trough mostidenes caused by collapsing underground mines. It is also possible that these features are the result of geotechnical issues related to reclamation efforts such as settlement or erosion of subsurface soils. However, it is not possible to determine which of these features are the result of subsidence of the mine and which may be caused by geotechnical issues.

This report contains the details of the exploratory work that we have performed to date. It also contains tookground information, exploration of previous mixigation, correlation with previous studies, exploratory defilling details, and laboratory certific.

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I. BACKGROUND

Fox Rochachild, LLF contracted Western Engancers & Geologists (Western) to perform research, data collection, and analysis of the condition of the historic mines that encompass a large portion of the Hideaway Hills subdivision in Black Hawk, 5D. On April, 27th 2020, a large subsidence event occurred in the northern end of East Daisy Drive. Residents and cavers initially believed that the subsidence was due to an unmapped cave, and the opening and adjacent tunnels were explored by caving experts I: was soon determined that the collapse was due to the failure of the ceiling of an abandoned mine.

Subsequent research commissioned by Fox Rothschild indicates that underground mining began in the 1910's. In the late 1900's, strip mining operations were undertaken for a portion of the area. Mining was conducted by multiple private corporations and finally by the State of South Dakota for use in the production of Portland Cement. Final reclamation performed at the site is documented as suitable for pasture land. However, the land was sold to a private owner by the State of South Dakota in 1994. In 1996 the property was split into tracts, and efforts to subdivide the tracts soon began. The Meade County Board of Commissioners approved a plat for the first lots of the Hideaway Hills Subdivision in October 2002.



Figure 1- Large Subsidence Feature Left by April 27th, 2020 Event.

Thirteen homes within the Hideaway Hills Subdivision have been evacuated. These bornes are located on East Daisy Brive. The homes were evacuated due to the risk of further collapse and the disruption of utilities damaged by the April 27th, 2020 subsidence event. The evacuation has created a long, dead-end street without proper

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turn arounds for fire apparatus on East Daisy. The International Fire Code (IFC) D103.4 states, "dead-end fire apparatus access roads in excess of 150 feet shall be provided with width and turnaround provision in accordance with Table D103.4." IFC requirements do not appear to be present within the evacuation area. The current configuration of the fencing which sections off the evacuation zone creates dead-ends of over 450 and 1300 feet on the remaining street.

The attached 2020 aerial map in Figure 2 shows the Hideaway Hill Subdivision with the various Mine Permit areas overlayed. The known underground mine that could be surveyed is also overlayed on the map.

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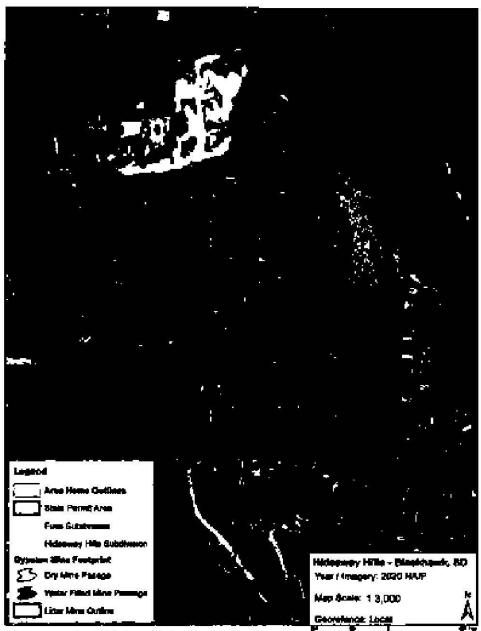


Figure 2 - 2020 Aerial Map with fermit Area Overlay

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Permits and subsequent Mining License Inspection Reports from 1986 to 1992 indicate that 135,227.58 tons of gypsum was removed from the site. During the same time period 140,000 tons of overburden was recorded to have been removed over 16 acres.

II. GROLOGICAL MAPPING

The Google Earth image below (Figure 3) shows a geospatial database of geologic units for the area around Black awk. This database has been overlayed using a KMZ file from the United States Geological Service (USGS). Colors and opacity of the layers have been



Figure 3 - Coogle Earth Image with Geologie Links

changed to create contrast and to allow imagery to be seen under the layers. The Hideaway Hills Subdivision lies in the Spearlish Formation. The Spearlish Formation is described by the USGS as "red sandy shale, silusione, sandstone, and minor limestone interbedded with abundant gypsium." The geologic age of this formation is Triassic to Permian. The Sundance formation lies to the east of the Hideaway Hills Subdivision. The Sundance Formation is described by the USGS as "greenish-gray, yellow, tau, red to orange and white, variegated, interbedded, fine- to coarse-grained sandstone, silusione, clay, and limestone." The geologic age of the Sundance Formation is late Jurussic to Middle Jurassic Because of the proximity of the site to the boundaries of both formations, materials common to both formations are readily found throughout the

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subdivision. It is not known if the materials typical of the Sundance Formation are naturally occurring at the site, or if they were imported during reclamation efforts.

III. OTHER INVESTIGATIONS

Several investigations have been performed within the development since the catastrophic subsidence event on April 27, 2020. The investigations addressed in this report are as follows:

- American Engineering Testing, Inc. (AET), "Geotechnical Exploration & Review Proposed Utility Re-Route – Northdale Sanitary District Hideaway Hills Subdivision Black Hawk, South Dakota", Report No. P-0004638, August 18, 2021.
- Montana Technological University (MTU), "Geophysical Investigation to determine the unknown extents of the abandoned Blackhawk Gypsum Mine, Blackhawk, SD", June 10, 2021.
- Intec Corporation, "PowerPoint Presentation: Results Report of the Robotized Vectorial Laser Survey and Electrical Resistivity Survey Carried Out in Blackhawk, South Dakota", October 3, 2020.

Intec calculated the interior volume of the underground mine to be 10,701.44 cubic yards using a Laser Vectorial Scan. The scan did not include areas of the mine that were flooded, or otherwise inaccessible. Cavers that entered the mine shortly after the April 27th, 2020 subsidence event encountered water along the eastern edge of the mine prohibiting exploration further to the east. Remnants of a rail system running into flooded sections of the mine indicate that the mine runs further to the east.

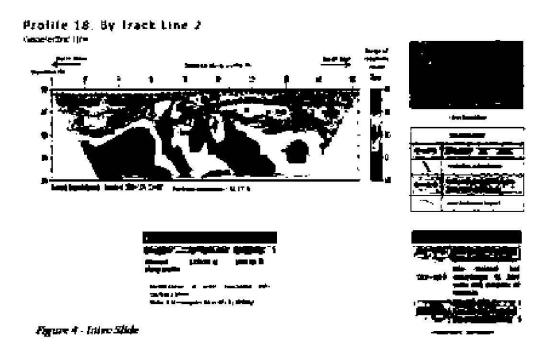
Intec used a resistivity method to map geologic features. This method is used to locate inconsistencies and anomalies under the surface. Since this method detects anomalies, it is necessary to verify these anomalies with drilling as stated in Intec's presentation. Figure 4 is a slide taken from the Intec PowerPoint presentation. This data indicates that anomalies exist along the right-of-way fence of Interstate 90.

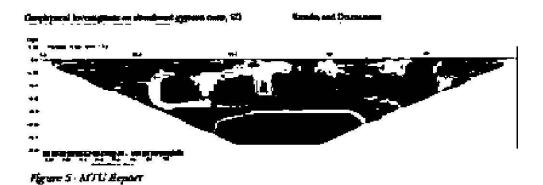
The AET investigation drilled several holes parallel to the interstate to determine the geotechnical feasibility of rerouting the sewer line from the evacuated zone of the Hideaway Hills Subdivision. Standard Penetration Tests (SPT) conducted at several locations during their investigation obtained high blow counts using a Standard Split Spoon Sampler. However, several SPT's obtained low blow counts at random depths and locations, which could indicate areas where mining is beginning to rubblize to the

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¹ Blow Counts is the term used for the number of drop-hammer strikes needed to drive the sampler a 6-inch integral

surface. Anomalies from Electrical Resistivity Tomography in the MTU report (Figure 5) as well as the Inter PowerPoint indicates that potential mine voids may extend further to the east and towards the interstate.



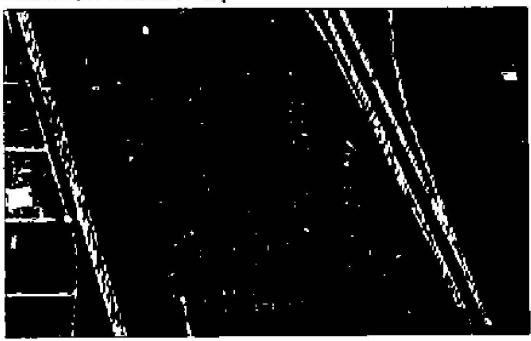


IV. DRILLING PROGRAM

Western created a drilling program on the site to determine geotechnical consistencies or inconsistencies within the Hidraway Hills Subdivision. Holes were purposely not drilled into the known underground mine for safety reasons. The underground survey

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was adequate enough to indicate where the underground mine is located for the intent of this preliminary investigation. Drilling was performed away from the known underground mine to determine if the mine extends further to the east towards Interstate 90, and to examine the fill piaced for the reclamation of the surface mine.



Egure 6 - Borchele Lecutions

Pilteen (15) holes were drilled within the Hideaway Hills Subdivision as shown in Figure 6. Holes were limited to rights-of-way and private properties where the owners gave consent to drill. The Hideaway Hills Subdivision is large, so holes were scattered throughout the development to obtain a broad data set for the subdivision. Holes were drilled by Northern Technologies, LLC (NTI) and samples were taken by Western, Lab work on the materials was performed at Western's in-house soils laboratory. Orilling was performed using a 4-inch hollow stem continuous flight auger. Samples were taken from auger cuttings, standard split spoon sampler, and a modified split spoon sampler (California Sampler). The drilling and split-spoon sampling were done in general accordance with ASTM D1452 - 09 Standard Practice for Soil Exploration and Sampling by Auger Borings and ASTM-D1586 - 11 Samulard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils.

The following table (Table 1) is a brief summary of materials and conditions excountered during the field investigation.

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	Table 1 - Summary of Materials and Conditions					
Hole	Summary					
BH-3	Sundance Formation					
	Blow counts are 8 to 12 blows per 18 inches between 5 to 15 feet.					
	Gypsum seam cuttings mixed with clays. E-log shows seam from 51.4 to 63 feet					
BH-7	Sundance Formation					
	Blow counts are 25 to 41 blows per 18 inches between 5 to 15 feet.					
	Encountered 13-foot gypsum seam starting at approx. 47 feet.					
BH-9 Fill area filled with material from the Spearfish Formation						
BH-9-OS1	Located on the other side of the street from BH-9					
	Different fill than BH-9. Some fill contained asphalt indicating there was a past					
	filled in subsidence feature at this location.					
BH-25	Sundance Formation					
	Blow counts are 11 to 34 blows per 18 inches between 5 to 15 feet.					
	Encountered 5-foot gypsum seam starting at approx. 40 feet.					
BH-27	Sundance Formation					
	Encountered 15-foot gypsum seam starting at approx. 33 feet.					
	Timber cutting were encountered in the material under the gypsum seam					
	indicating mining under the gypsum seam in a larger gypsum pocket in this					
	area.					
BH-28	Fill area filled with material from the Spearfish Formation.					
BH-101	Fill area filled with material from the Spearfish Formation.					
	Hole abandoned due to sampler falling in hole.					
BH-101-OS1	Fill area filled with material from the Spearfish Formation.					
BH-102	Gypsum encountered from 20 inches to 17 feet.					
BH-103	Fill area filled with material from the Spearfish Formation.					
BH-104	Fill area filled with brown clay. Asphalt has experienced much damage.					
BH-105	Fill area filled with material from the Spearfish Formation.					
BH-106	Fill area filled with material from the Spearfish Formation.					

Appendix A contains the Drill Logs for the holes drilled. Atterberg Limit Tests and Particle Size Analysis were performed on some of the samples representative of typical material types found during the field investigation. These results can be found in Appendix B. Below is a summary (Table 2) of the test results done within the lab. The AASHTO Subgrade Rating puts each sample in the category of poor. This poor subgrade material is the material that utilities, roads, and homes have been built on top of.

Table 2 - Summery Test Results									
Hole	Depth (fes)	USCS Classification (ASTM D2487)	AASITTO Cleenification (ASTM DAMS)	AASHTO Subgrade Rating	Swelling PVC: Ratings Category	Swell Index (Najsh)	Soil Description		
BEE 105	91014	Cl. Less Clay	A-8	Prese	1.07 anseritical	900	Red Lem Clay		
169-7	5 to 6.5 10 to 11.5	Ci-Leen City	A-7-6	Poor	40,5 / nodecident	₹77 5	Crive Green Sandy Lean Clay		
101-27	10 to 11.5 15 to 16.5	Ci.Leen Cay	A.74	Floor	va# / naneddasi	-775	Olive Green Sandy Lean Clay		
BH-102	17 to 200 	Ci-less City	A-7-6	Poer	14 f nooratical	1250	Red Lean City (Native)		
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The PVC Rating Category for all samples was considered noncritical; however, the swell index for the sample in BH-106 and BH-108 is 900 pounds per square foot (paf) to 1250 psf, respectively. This potential swell force is high enough to cause displacement of pavements, flatwork, and lightly loaded structures if the material is saturated and fully swelled.

Much of the Strip Mine Area has been reclaimed with material found in the Spearfish Formation. It is indicative that some of this material was found on site and surrounding areas to bring the site back to its pre-mined contouring. BH-104 found more of a brown clay throughout the full depth of that borehole. Within this area the exphalt has experienced an extensive amount of damage as seen in Figure 7. There are numerous areas throughout the subdivision that has

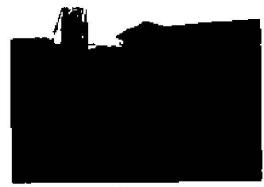


Figure ? - Asphalt Demoge

experienced damage to asphalt readway sections. There are also numerous roadway

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sections that have been repaired by patching. Inconsistencies of fill material, quality of backful material, and lack of compaction effort appears to be the cause of damage to the infrastructure throughout the subdivision. Fockets of looser material that were not properly compacted allow the intrusion of wates, which results in settlement of these soils, which then leads to areas of negative drainage and ponding, which results in further settlement. This has led to the failures seen in the streets, and will eventually lead to further damage to burief infrastructure and homes in the subdivision.

Boreholes located sest of the known underground mine encountered the Sundance Formation. BH-27 encountered a gypsum seam over apparent mine workings. Cuttings with timbers were found below the gypsum seam in this area. The gypsum in this area is evidently a large deposit of gypsum where only the bottom portion was mined. This hole shows that underground mining catends further to the east than what was previously surveyed by Intec.

V. RECLAMATION AS PASTURELAND

Permits and subsequent Mining License Impretton Reports indicate that the surface mine was reclaimed as l'asture Land. The Administrative Rules of South Dakota (5.D. Admin. R.), Chapter 74:29:06:01 states that, "before a mining operation permit application or a permit amendment application for an existing reclamation plan is submitted, the operator, the department, and the landowner or the landowner's designated representation must confer on and determine the pastmining land use of the affected lands." Chapter 74:29:07:20 describes the requirements applying to rangeland as an approved postmining land use. One requirement is that the "affected land must have the capability to support a livestock carrying capacity that is equivalent to that of the surrounding area,..." Chapter 74:29:07:25 distates the requirements for reclamation for use of reclamated mines for homesites. The requirements from Chapter 74:29:07:25 has multiple requirements that must be demonstrated or addressed. One of these requirements is, "the geotechnical feesibility of establishing homesites." It is our opinion that this specific requirement was not addressed in the reclamation of the Permit Area.

Compaction requirements and fill selection for pastureland and homesites would be very different for each past mining land use. Structural fill for homesites would be strictly controlled, inspected, and tested for proper compaction and moisture in Brinch compacted lifts. Structural fill is typically required to have compaction efforts reaching 98% of the standard proctor. Sites reclaimed for partureland would not be as strictly tested and not selection would not be critical. Compaction efforts for pastureland would likely be proof rolled and not tested with equipment such as a said cone or soll/moisture density gauge. Suitability of the backfill material would have also been looked at prior to placement for property reclaimed as homesites.

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VL DRAINAGE

Drainage for the lots primarily run towards the streets within the Hidraway Hills Subdivision. Some depressions can be found throughout the lots within the development. Some homes near the intersection of Daisy Drive and Bice Bell drive lie lower than the street causing water to not flow off of the lots. Drainage that has entered the streets are allowed to flow into the subsoils through broken concrete and asphalt. Gaps between concrete joints and between concrete and asphalt also allow water to infiltrate into the subsoils.

The infiltration of water into the subgrade has been caused by settlement of the fill soils within the subdivision. The infiltration of water then caused further settlement within the poor subgrade soils. This water can easily travel down utility trenches causing more settlement within the subgrade. The underground mine fles adjacent to the fill material. Water that travels towards this underground mine freely drains into the underground mine, fine soils found in the poor subgrade of the subdivision can easily be transported by water moving through the subgrade.

Gypsum has multiple uses, one being a soil amendment. Cypsum can be added to soil to increase its ability to infiltrate water into sodic soils. This increase its infiltration then allows more water to enter into this fill material. South Dakota tends to have sodic soils as seen in Figure 8 (taken from the SDSU Extension, IGrow Soybean Best Management Practices Chapter 48: Soybeans, Salinity, and Sodicity, Page 48-415). Meade County shown as yellow in Figure 8 is estimated to have 10 to 20% sodic soils.



Figure 3 - The passentage of sodie sodis in South Dalium in this way yellow is 10-20%

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VIL ANALYSIS

Much of the fill material appears to be comprised of sensitive shales and derivative clays that readily experience softening when wetted or saturated, and have proclivity for swelling and shrinking with moisture changes. Standard Penetration Testing indicates wide variation in the in-situ density of fill materials used at the site. There is also a wide variation in the types of fill materials discovered such as clay types and gypsum content. In-situ moisture contents were also highly variable with evidence of perched water tables at random depths. These findings indicate that the fill placed in these areas was not controlled and properly prepared for use as structural fill. The fill materials themselves are not the best suited for use as structural fill.

Wood fragments were encountered in BH-27 at a depth of 50 feet. This borehole is in the vicinity of the known abandoned underground mine workings, and are an indicator that the abandoned underground mine workings extend further east than are presently believed to be.

Due to the inconsistencies of the fill material used for reclamation it would be a major undertaking to properly mitigate the entire subdivision. Some of the challenges could prove to be insurmountable. Inconsistent backfill material, compaction effort, and depth to competent material could require a different and expensive mitigation technique for each home and even then, there is no guarantee that any technique would work longterm. In addition to the homes, all utility trenches and roadways may need to be mitigated to prevent water from infiltrating through the fill around and under the homes. Currently, water is allowed into the subsurface through cracks and holes in the asphalt, separation of concrete, and separation of concrete and asphalt. This would require removal of all fill material to a depth where competent material is encountered and replaced with proper structural fill and replacement of current utility systems and all roadways. As of right now, there is a constant threat of a sudden subsidence event (as already witnessed in several catastrophic events around the neighborhood) occurring, resulting in a water main break, or worse, a gas line. Surface water can also infiltrate into the fill material and travel through the fill material into the underground mine. Mitigating the underground mine will be a challenge due to the infrastructure and homes above the mine. Mass excavation is typically the cheapest option for mitigation of this type of mine workings, but is limited due to the location of infrastructure and homes. Homes would have to be removed in order to be able to excavate the underground mine to backfill with controlled fill. Due to the shallow depth to the mine, considerations will have to be made to prevent ground movement if grout injection or other void fill techniques are used. The cost of mitigation, including determining type of mitigation needed (given the variety of issues presented in the area), design of the

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mitigation, and construction management and inspection would very likely exceed the value of the homes' estimated cost, both individually and in the aggregate.

VIII. MITIGATION OPTIONS

Abandoned mines can be mitigated using different methods. Information about a site must be obtained in order to determine which method is best suited for a particular site. Mitigation of an underground mine can be very expensive. Sites containing homes, fences, flatwork, streets, and utilities makes a site more difficult to reclaim.

Mass excavation is a method that is typically the cheapest method for reclaiming a site. Mass excavation involves opening up the mine to allow controlled fill to be placed into the mine to the finished elevation. Bulkheads are typically placed into the mine to prevent backfill material from entering the mines at deeper depths. Since the entire extent of the known underground mine workings are shallow, bulkheading could not be used at Hideaway Hills. Existing utilities such as water, sewer, gas, power, telephone, fiber optics, cable, and storm sewer make it impossible to excavate into the mine without removing and replacing the utilities. Replacement of all these utilities would be extremely expensive, and would negate the feasibility of using mass excavation as a reclamation technique. Excavating near or under homes could cause irreparable damage to an existing homes foundation or structure.

With utilities and homes being in close proximity, another option would be void fill, which consists of filling the mine with a material that will not settle over time and would be able to support the overburden, utilities, and structures above the mine. Typically drilling and grouting would be used to fill the underground mine workings below, using a technique referred to as grout injection. Holes would be drilled in a predetermined pattern, and holes that did not encounter intact gypsum would be filled with grout at a pressure as directed by an engineer. The ground, homes, structures, and utilities would have to be continuously and carefully monitored through all operations of drilling and grouting. Since the mine is shallow and in proximity to existing infrastructure and homes, damage could be caused during these operations and may need repaired during and after these processes. Close monitoring will reduce the amount of damage caused but cannot guarantee that infrastructure and homes will not be damaged.

As previously discussed, some areas within the Hideaway Hills subdivision have been previously reclaimed for use as pasture land. Since these areas were filled with uncontrolled fill it is difficult to determine which homes could be in danger of settling. Extensive drilling around each home would be required to be able to determine if the home is at risk of settling and to engineer a remedy to prevent or reduce the risk of

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settling. Investigation, design, and implementation of these plans could be both expensive and time-consuming.

IX. LIMITATIONS

Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices, and in accordance with the standards and codes sited.

This report was prepared for the use of our client in understanding the existing conditions, hazards, and mine subsidence issues found at the Hideaway Hills Subdivision. This report should not be used for contractual purposes as a warranty of interpreted subsurface conditions such as those indicated by the interpretive boring and test pit logs, cross-sections, or discussion of subsurface conditions contained herein.

The analyses, conclusions and recommendations contained in the report are based on site conditions as they presently exist and assume that the exploratory borings, test pits, and/or probes are representative of the subsurface conditions of the site. If, during future investigations or construction projects at the subdivision, subsurface conditions are found which are significantly different from those observed in the exploratory borings and test pits, or assumed to exist in the excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and further exploration or excavation at the site, or if conditions have changed due to natural causes or construction operations at, or adjacent to, the site then this report should be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse.

The Summary Boring Logs are our opinion of the subsurface conditions revealed by periodic sampling of the ground as the borings progressed. The soil descriptions and interfaces between strata arc interpretive and actual changes may be gradual.

The drilling logs and related information depict subsurface conditions only at these specific locations and at the particular time designated on the logs. Soil conditions at other locations may differ from conditions occurring at these boring locations.

Also, the passage of time may result in a change in the soil conditions at these boring locations. Groundwater levels often vary seasonally. Groundwater levels reported on the drilling logs or in the body of the report are factual data only for the dates shown.

Unanticipated soil conditions are commonly encountered at large sites and cannot be fully anticipated by merely taking soil samples, borings, or test pits. Such unexpected

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conditions frequently require that additional expenditures be made to attain a comprehensive understanding of the entire site. It is recommended that the Owner consider providing a contingency fund to accommodate such potential extra costs.

Western Engineers & Geologists will not be responsible for any deviation from the intent of this report including, but not restricted to, any changes to the scheduled time of remediation, the nature of the project or the specific construction methods or means indicated in this report; nor can our firm be responsible for any construction activity on sites other than the specific site referred to in this report.

We appreciate this opportunity to help successfully complete this project. If you have any questions about the information contained in this report, please contact us at your convenience.

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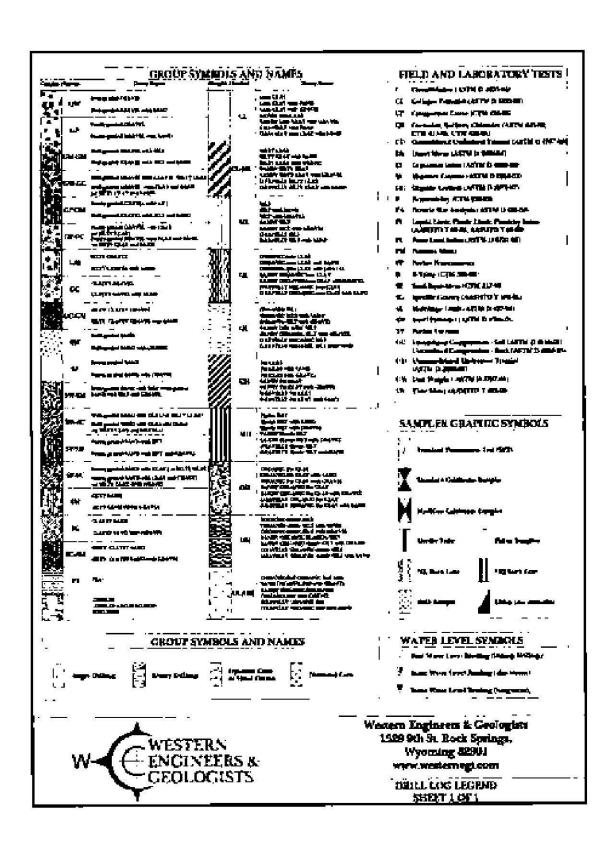
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APPENDIX A

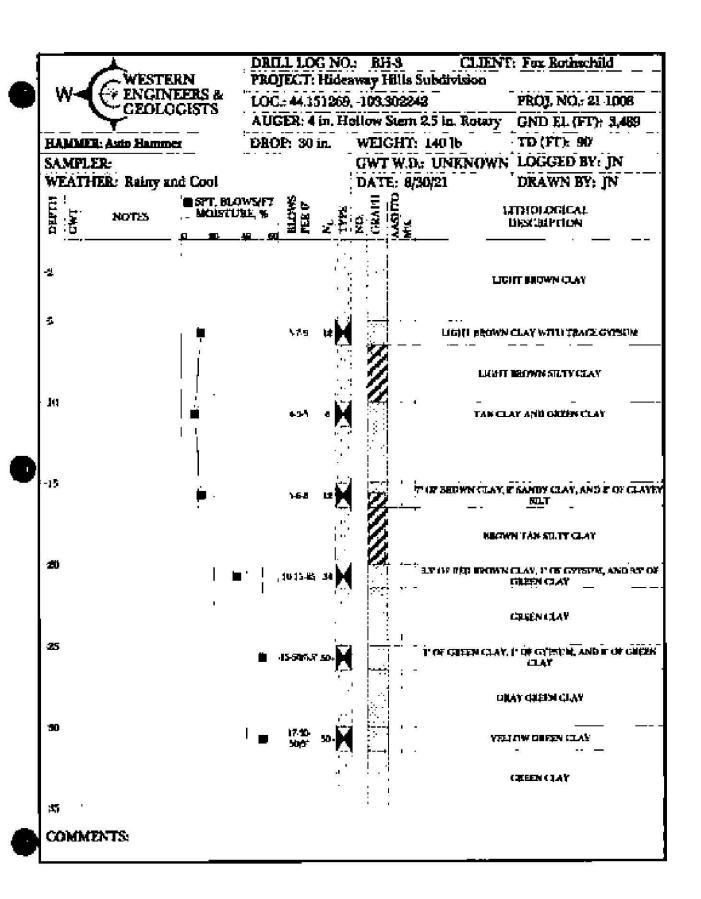
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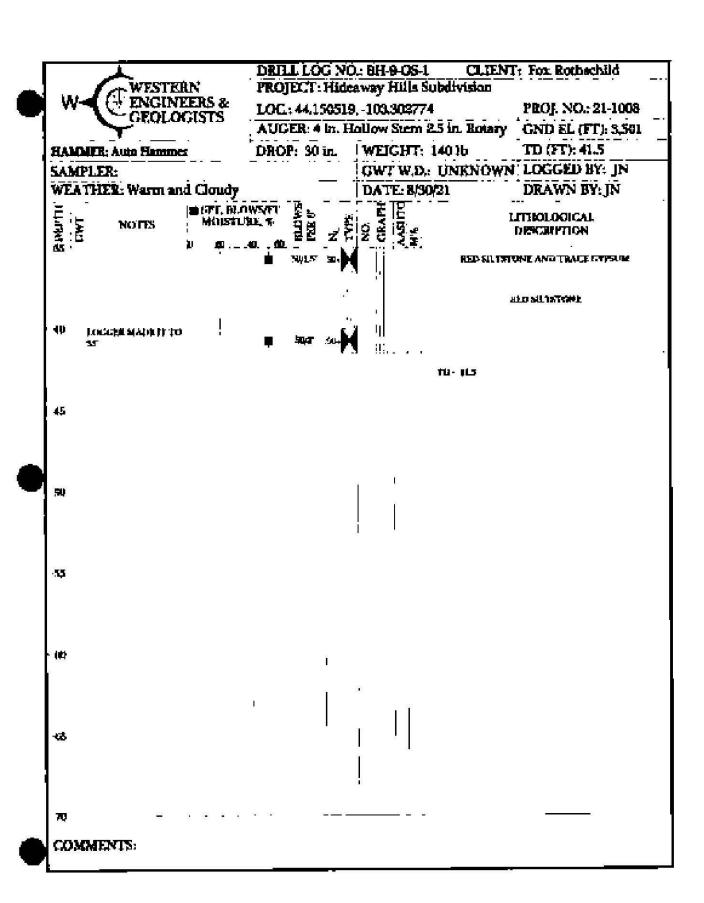
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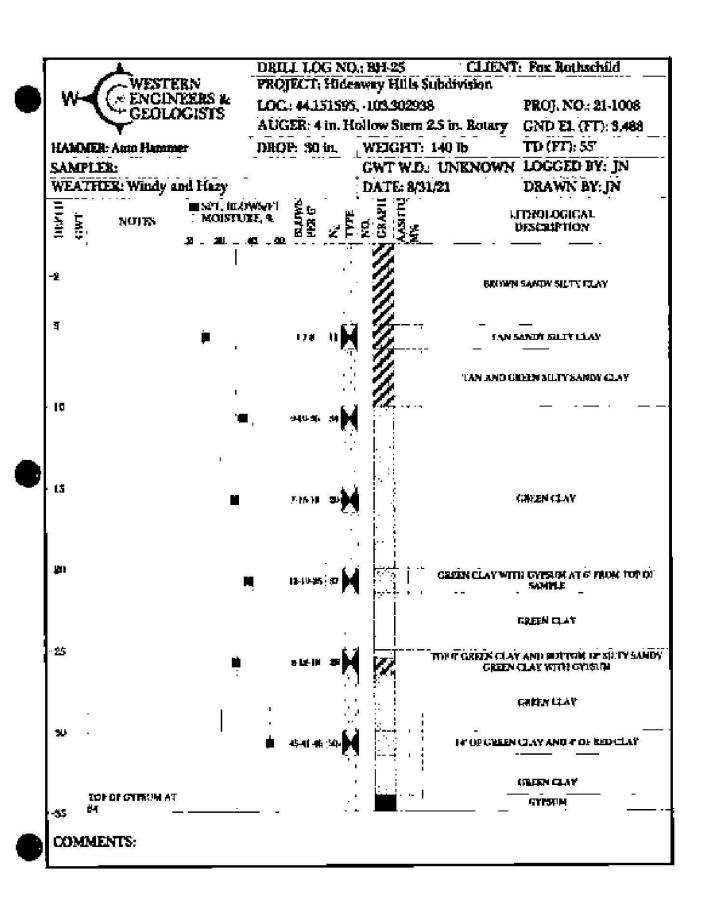
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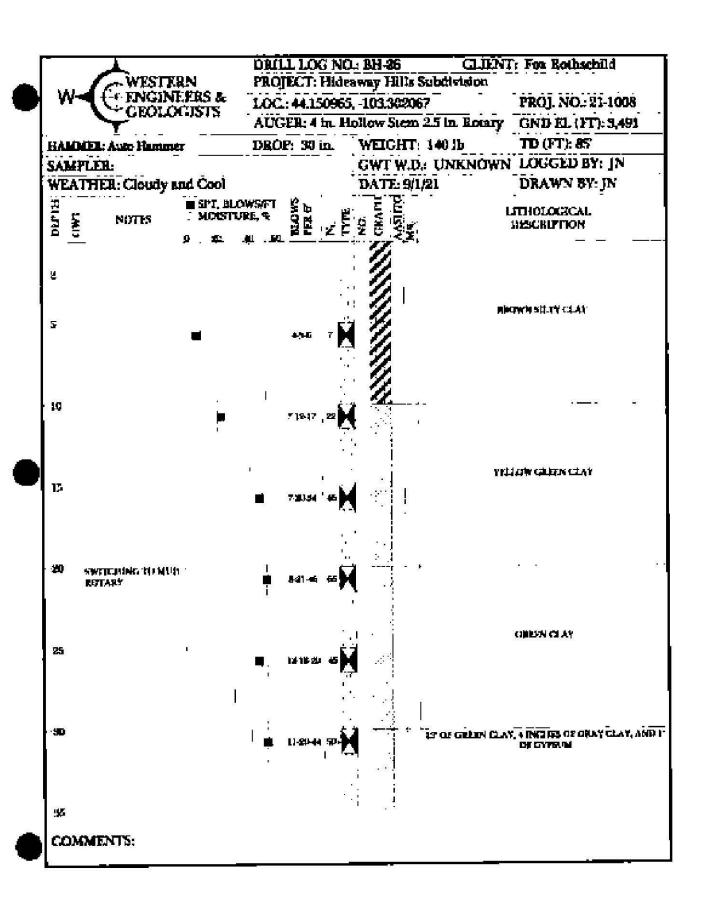
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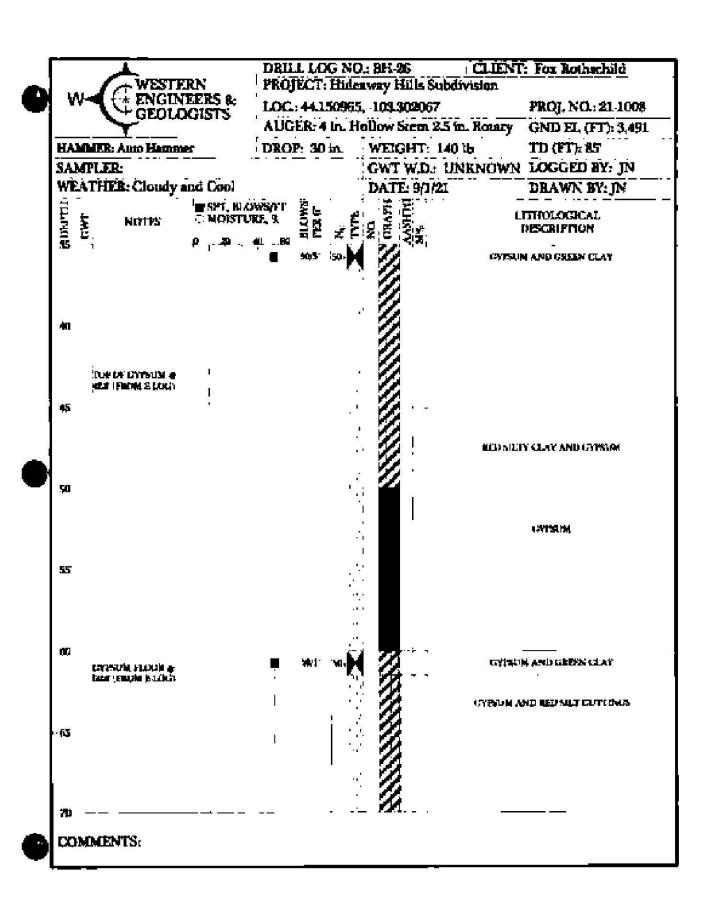
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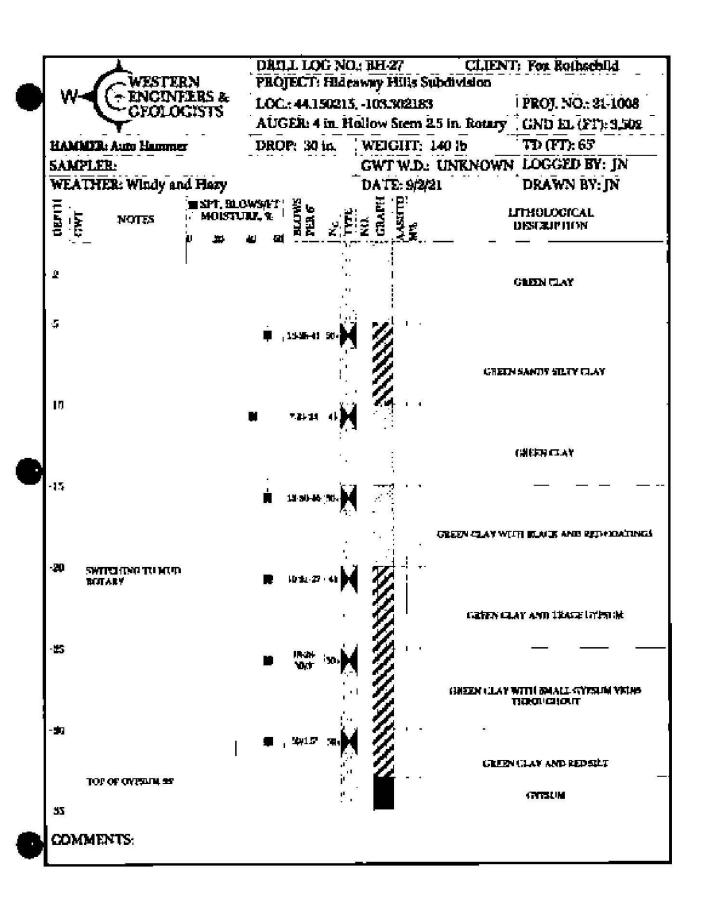


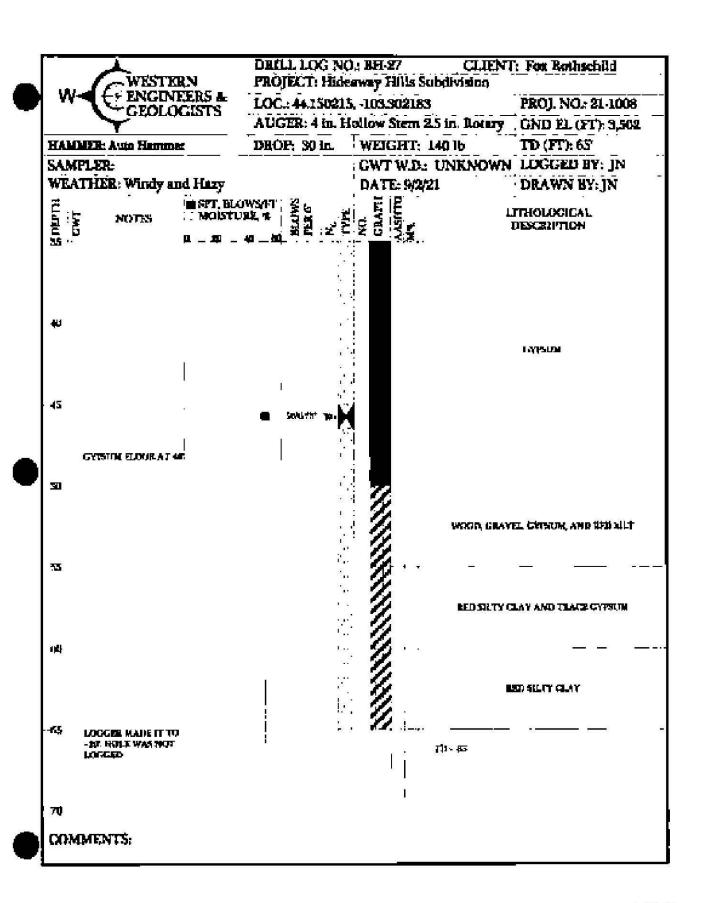
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	77	GEOLG	EERS & GISTS			51595,				PROJ. NO.: 21-1	
				·r -	•					GND EL (FT): 3	<u> 488</u>
	HAM	MER: Auto Hearts	u	DRO	P: 30	in	·		140 lb	TD (FT): 55	
		PLER;				.4	and the state of t			LOGGED BY: 1	35 - 4
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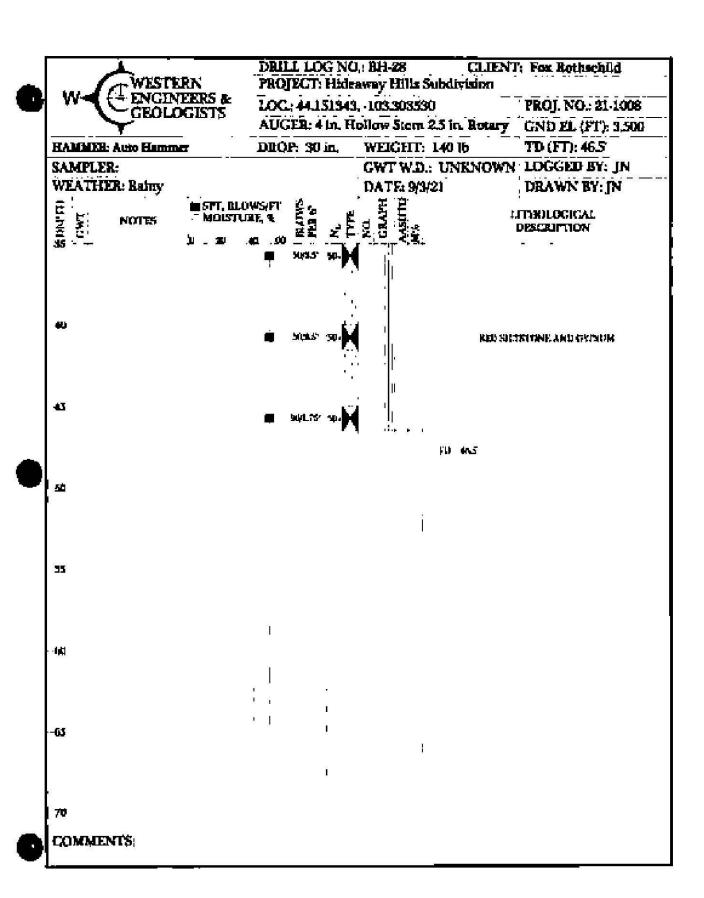


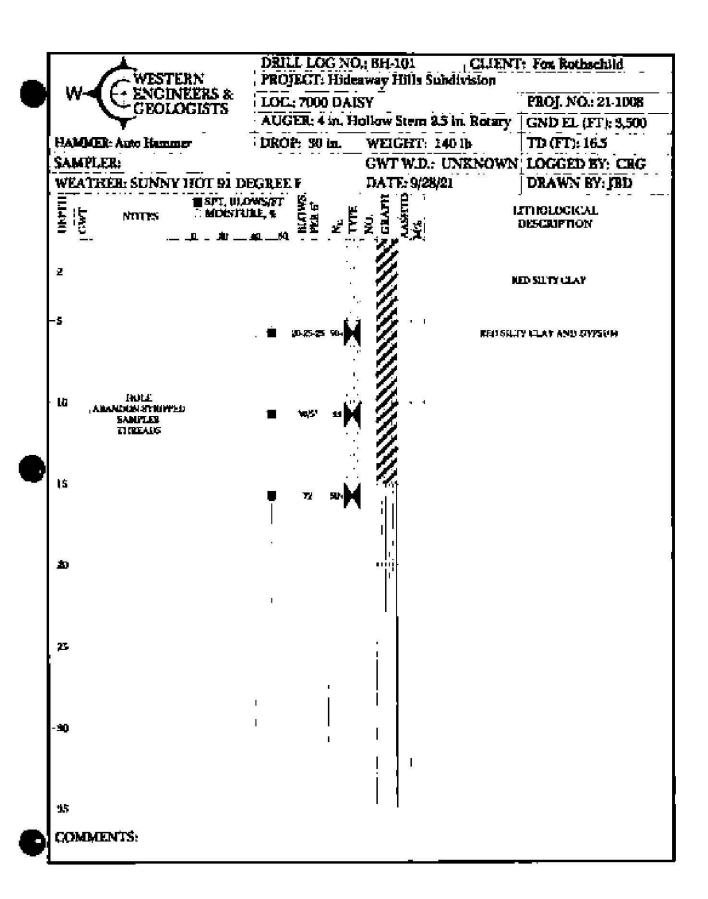
* SACRETURE S	DRILL LOG N	O.: 8H-26	CLIENT: For Rothschild
WESTERN ENGINEERS & GEOLOGISTS	LOC: 44.15096	leaway Hills Subdiv 65, -103.302067 Hollow Stem 2.5 in.	vision. PROJ. NO.: 21-1008 Rotary GND EL (FT): 3,491
HAMMER: Auto Hammer	DROP: 30 to.		
SAMPLER		<u> </u>	KNOWN LOGGED BY: JN
WEATHER: Gloudy and Cool		DATE: 9/1/21	DRAWN BY: JN
<u> </u>	TORE, 9 SE	Nu. SAMI	LITHOLOGICAL DESCRIPTION
-ফ			RED HILT AND GYTSUM
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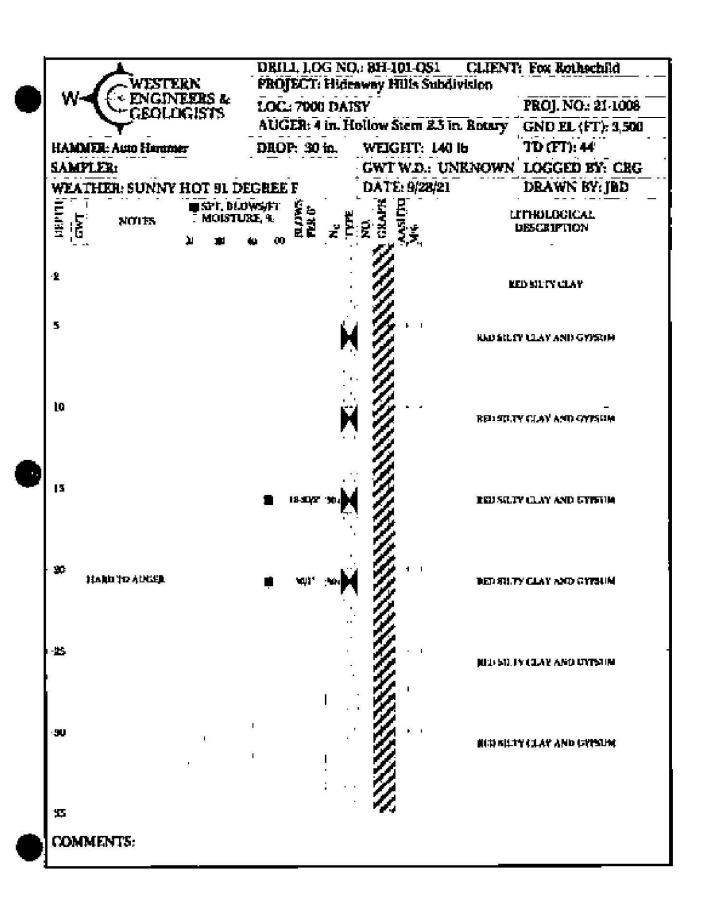


WESTERN ENGINEERS & GEOLOGISTS CGEOLOGISTS CHAMMER Acto Hammer DROP: 30 in. WEIGHT: 40 is TO (FIT): 5,500 HAMMER Acto Hammer SAMPLER: WEATHER: Radry BSF1. ROJDWAYF ACIDSTURE: BCF1. ROJDWAYF ACIDSTURE: BCF1. ROJDWAYF ACIDSTURE: BCF1. ROJDWAYF ACIDSTURE: BCF1. ROJBWAYF ACIDSTUR	ì		DRILL LOG NO.	יו דיי פס נזם .	INT: Fox Rothschild
HAMMER And Hammer DROP: 30 in. WEIGHT: 140 is TO (TT): 45.5 HAMMER And Hammer DROP: 30 in. WEIGHT: 140 is TO (TT): 45.5 SAMPLER: Ruby DATE: 97.321 NOTES SCISTUAL: 5.5.2 5.5 5.5 1.00 DRAWN BY, IN DR					
AUGER: 4 in. Hollow Stern 25 is. Rotary GND EL (FT): 3,500 HANDLER: Acto Harmoner DROP: 30 is. WEIGHT: 140 is. TO FT): 45.57 SAMPLER: GWT W.D.: UNIKNOWN LOGGED BY: IN DATE: 9(321) DRAWN BY: IN MISSTURE: BEST STORY DATE: 9(321) DRAWN BY: IN UTHOLDRICAL DESCRIPTION DESCRIPTION DESCRIPTION 10 SIGNA 14 SI	H	W- ENCINEERS &	2.75	•	
HAMMER: Actio Hammer DROP: 30 in. WEIGHT: 140 is TD (TT): 45.5 SAMPLER: WEATHER: Rainy DATE: 9/5/21 DRAWN EV; IN DATE: 9/5/21 DRAWN EV; IN DROP: 30 in. WEIGHT: 140 is TD (TT): 45.5 WEATHER: Rainy DATE: 9/5/21 DRAWN EV; IN DRAWN		GEOLOCISTS			
SAMPLER: WEATHER Radny SPIT DATE 9/3/21 DATE 9/3/21 DRAWN BY, IN DRAWN BY, IN DATE 9/3/21 DRAWN BY, IN DRAWN BY, I		l			
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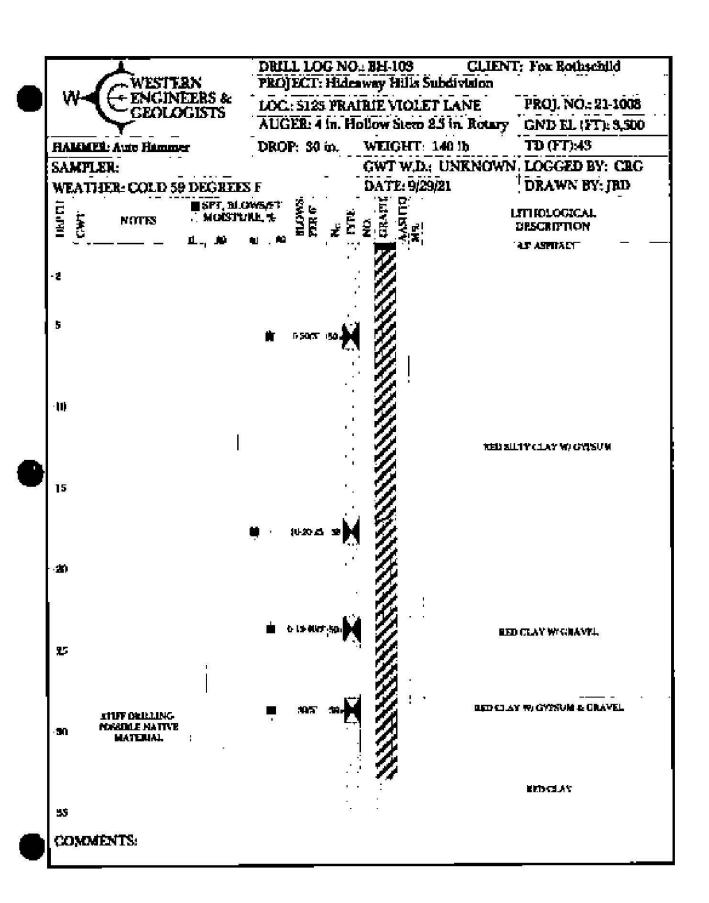
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WESTERN		D.; BH-101-OS1 CLIENT: Fex Rethachild
W ENGINEERS & GEOLOGISTS	LOC: 7000 DAE	
HAMMER: Auto Hammer	DROP; 30 in.	WEIGHT: 140 Ib TD (FT): 44
SAMPLER:	DRUI, ov	GWT W.D.: UNKNOWN LOGGED BY: CRG
WEATHER: SUNNY HOT 91 DE	GREE F	DATE: 9/28/21 DRAWN BY: JBD
E NOTES MOISTUR	WS/FT SA	' = 'e '
 		RED SILTETONIL AND CYTSUM
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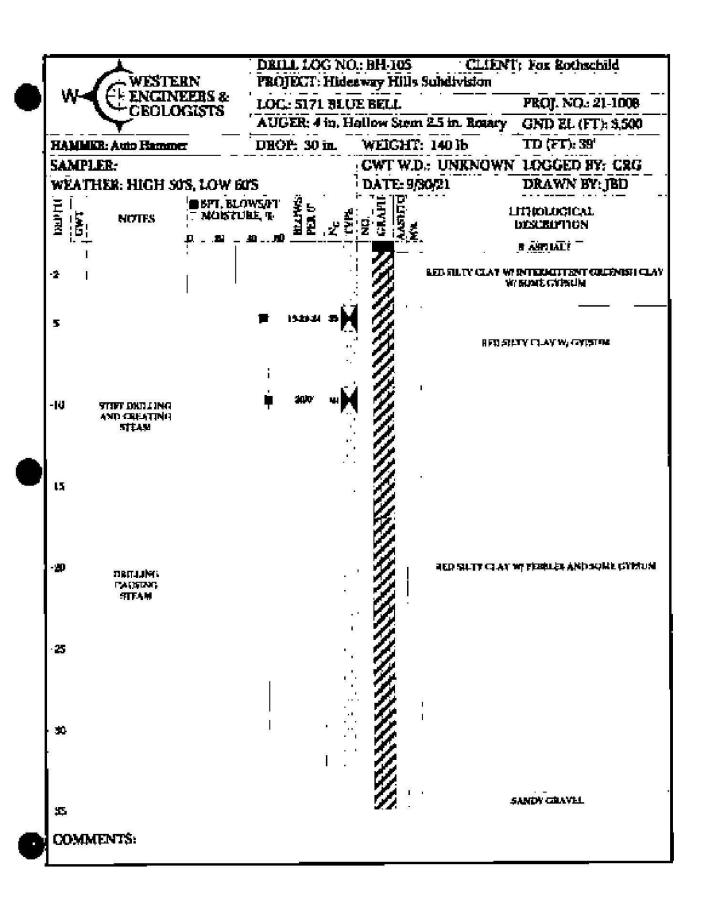
Γ	WESTERN	DRILL LOG PROJECT: H			CLIEN a Subdivision	T: Fox Rothschild		
7	W ENGINEERS & GEOLOGISTS	LOC.: ROW IN FRONT OF 7090 DAISY PROJ. NO.: 21-1008 AUGER: 4 in. Hollow Stem 2.5 in. Rotary GND EL (FT): 3,500						
E	AMMEL: Auto Hammer	DROP: 30 in	<u>. </u>	WEIGH	T: 140 b	TD (FT): 25		
S	SAMPLER:			GWT W.	D.: UNKNOW	N LOGGED BY: CRG		
V	WEATHER: COLD 59 DEGREES	4 F	3	DATE: 9		DRAWN BY: JBD		
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Ī	MOTES MONETAL		. ₽ Ĕ .	NO. GRAFIT	#	LITHOLOGICAL DISCRIPTION		
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	WESTERN		DRILL LOG NO.: BH-103 CLIENT: Fox Rothschild PROJECT: Hideaway Hills Subdivision						
	W- ENGINE		LOC.; 512					PROJ. NO.: 21-10	
	CEOLO	GEOLOGISTS .					GND EL (FT): 3,5		
	18 A		DROP; 30 to.		WEIGHT: 140 th			TD (FT): 43'	_
	SAMPLER:				· · ·			LOGGED BY: CI	RG
	WEATHER: COLD 59	DEGREES :	F		ļ. 	9/29/21		DRAWN BY: JBD	
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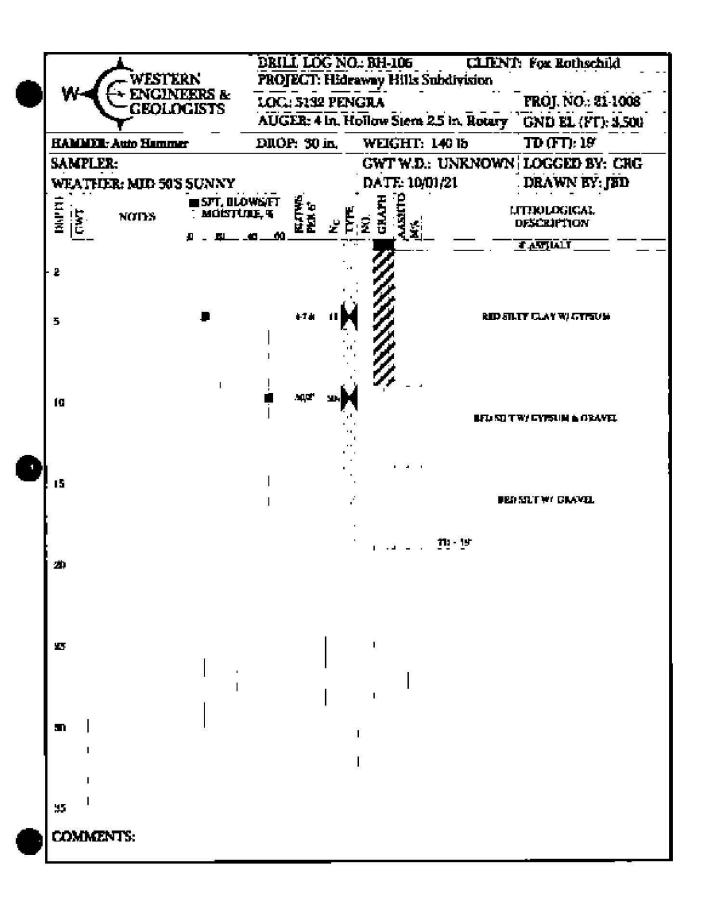
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ll tall_aff (, bytotkireene w				1000 Sept. 1	PROJECT: Hidraway Hills Subdivision						
	200	GEOLO					BELL		PROJ. NO.: 21-1008	_	
ı					8		llow Stem 2		(1 — - — - — 1 — 1 — - — - — - — - — - — 	. }	
ı	-	DIER: Auto Hammi	7 .	DROP	30		WEIGHT:		TD (FT): 19'	4	
		APLER:	¥			H	1 <u></u> 0		AN LOGGED BY: CRG		
		ATHER MID 50'S		OF 20	9 <u>0-</u>	s 2	DATE: 9/30	1/21	DRAWN BY: JBD		
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HAMMYR: Auto Hammer SAMPLER: WEATHER: HIGH SOS, LOW E NOTES NOTES NOTES NOTES	LOC: 5171 BL' AUGER: 4 in. 1 DROP: 30 in.	iollow Stem 25 in. Ro WEIGHT: 140)b	PROJ. NO.: 21-1008 GND EL (FT): 3,500 TD (FT): 39 OWN LOGGED BY: CRG DRAWN BY: JBD
AMPLER: WEATHER: HIGH 50'S, LOW E	DROP: 30 m.	WEIGHT: 14016 GWT W.D.: UNKNO DATE: 9/30/21	TD (FT): 38' OWN LOGGED BY: CRG DRAWN BY: JBD
AMPLER: WEATHER: HIGH 50'S, LOW E	AKS OWSET SE DBL TO SE	OWT W.D.: UNKN DATE: 9/30/21	OWN LOGGED BY: CRG DRAWN BY: JBD
WEATHER: HIGH 50S, LOW 6	ows.in & Drive a second	DATE: 9/30/21	DRAWN BY: JBD
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APPENDIX B

TESTING RESULTS

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

1329 Ninth Street Rock Springs, WY 82901 307-362-5180 www.westernegi.com



CUEATT:	forothchild	TECHNICIAN:	ZCM
JOS NUMBER:	21-1008	TEST METHOD:	A5TM 04318-10
PROJECT:	Hiddulacy Milts Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/21 10/1/21	SAMPLED 8Y:	CRG
TEST DATE:	10/21/2021	SOURCE:	9H 7 5-6.5, 10-11.5
SAMPLE DESCRIPTION:	Olive Green Sandy Lean C	lay, AASHTO Classific	ation A-7-5. FHA = 3-1

Can No. 1

Mass of can 20.88

Can 4 wet 35.44

Can 4 dry 31.33

MM 39.33

_ 1 _	5 1	29
20.88	21.02	21,01
35.44	41.21	43,15
33.33	35.35	36.34
39.33	40.89	44.29
35	30	17
36 36	10.20	ነር ጋር

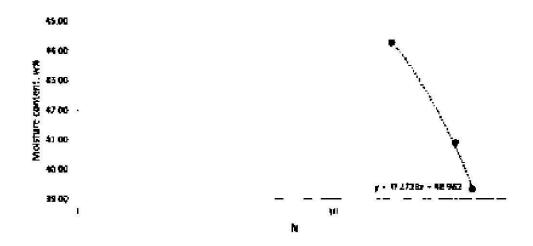
Liquid Limit

XZ	ХL
20.73	20.85
30.53	31.68
28.66	29.79
20.25	23.14

L ≐	42
₩ =	21

Blows N Blows Required

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Classification	п	а	



Upe linear or logarithmic creedline equation with a + 25 to calculate liquid kmit

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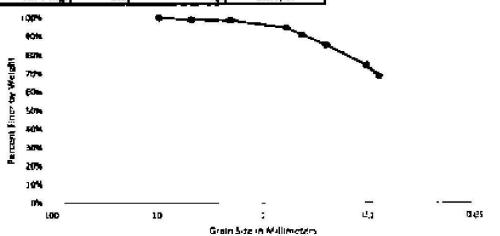
CLIENT! Fourothehild	TECHNICHAN \$20M	
108 NUMBER: 11-1008	TEST METHOD: ASTM C117 & C136	
PROJECT: Hideaway Hills Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	SAMPLEO BY, CRG	
TEST DATE: 10/21/2021	50UACE 9H 7 5-6.5", 10-31.5"	
SAMPLE Give Green Sandy Lean Clay, AASH1G Classification A-7-6, FHA < 3.3 DESCRIPTION;		

Fan + 654.7

Slave Number	Serve Sett (mm)	Weight Retained + Pan (gm)	Weight Retained (don)	Percent Retained	Pertabilit Floer
0.375	9.53	634.7	6.0	i dec	100%
4	4.75	658.4	3.7	136	99%
10	7	656.1	1,A	196	99%
30	0.5	669.5	14.8	5%	95%
40	0.425	669.4	14.7	9%	91%
60	0.25	675.5	71.7	15%	85%
140	0,106	696.2	41.5	25%	75%
200	0.08	677.1	22.5	31%	69%
Páh		683.6	765.7	100%	DAR

7etal 385,6

LinBorntty C	Linkhormity Coefficient, Percent Moisture, and Mass Lost			Washing	
ndial Mass	365.6	% Mobilure:	15.01%	Initial Mass	385.6
Pinel Mass:	365.6	010:		Mass of Part > Soil (8)	776.49
% Mass Lost:	D.0%	D30:		Mast of Pan + Soil (A)	539.69
Ten;	0.865	D60:		Mass Passing 200	236.8
Tim + Mo	2.9	Cci	WDAY/OI		
Tin + M _a :	3.2	T _e	#DIV/O		



Reynment by: Zack March Date: 10/26/2021

Date Cremed: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 1/11/21

1329 Ninth Street Rock Springs, WY 82901 307-362-5180 www.wisternegl.com



CLIENT:	Fourothchild	TECHNICIAN:	ZCM
JOH NUMBER:	21-1008	TEST METHOD:	ASTM D4316-10
PROJECT:	Hideoway Hills Subdivisio	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/2021	SAMPLED BY:	CRG
TEST DATE:	10/21/2021	SOURCE:	BH 27 10-11.5', 15-16.5'
SAMPLE	Olive Green Sandy Lean Cl	ey. AASHTO Classific	ation A-7-6. FHA = 2.8.
DESCRIPTION:	2		

Uguid Limit.

Can No. Mass of can Ean + wet Can + dry MA Blows N

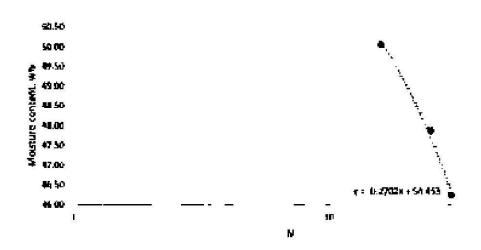
Blows Required

	Processor			
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42.07	42.2B	44.25		
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46.23	47.87	50,07	- 21	
30	25	15	7	
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MERSON FRANK		
24	E	
20.58	20.72	
29.56	34.31	
27.63	31.94	
27.38	27.97	

μ =	49
Piz	50

Classification	i CL	



^{*}Use linear or logarithmic trendlina equation with a = 25 to calculate liquid limit*

Control of the Control of Control

1339 Winth Street Rock Springs, Wy 82901 307-362-5180 www.westernegi.com



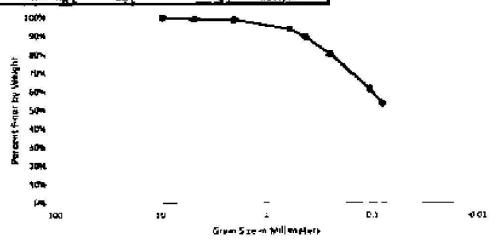
THE RESIDENCE PROPERTY AND ADDRESS OF THE PARTY OF THE PA	Fouraitie hild	TECHNICIAN:	
JOB NUMBER:	21-1006	YEST METHOD:	ASTM C117 & C136
PROJECT:	Hideaway Hills Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/21-10/1/2021	SAMPLED BY:	CRG
	10/21/2021	\$OURCE.	BH 27 5-6-5" , 10-11-5"
SAMPLE DESCRIPTION:	Olive Green Sandy Laun Clay.	AASHTO Classification	A-7-6, FHA = 2.B.

Pan = 654.7

Seve Number	Sieve Spe (ron)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Percent Finer
0.375	9.53	654.7	0,0	0%	100%
*	4,75	657.4	2.7	1%	99%
10	2_	555.8	1.2	1%	99%
30		673.6	16.9	E%.	外外
40	0.425	\$70.5	15-8	10%	90%
60	25.0	590.3	35 6	19%	B156
240	0.106	725.2	71.5	38%	52%
200	0.08	584.9	30.2	46%	54%
Pan		579.7	206.G	100%	(7%)

Total 382.5

Uniformity C	pelficient, Pa	room Moisture, an	d Mara Lost	Washing	
Intel® Mass:	382.5	% Maisture:	18.04%	Inidal Mass	392.5
Firel Mass:	382.5	D10:		Mass of Pan + Soil (B)	772.56
% Mass Lost:	0.0%	D30;		Mass of Pan 4 Soft (A)	590,48
Th:	0.86	D60:		Mass Passing 200	187.1
Tin + M ₀ :	3.4	Cçi	#DIV/0)		
Tigs + Mac	3.5	C _u :	#OlV/O!		



Reviewed by: Zack Meek Date: 10/26/2021

Date Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

1929 Ninth Street Rock Springs, WY 82901 307-362-5180 www.westernegl.com



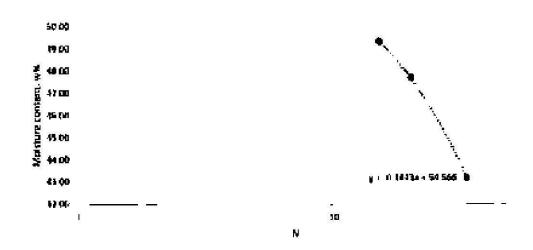
CUENT:	Fostrothchild	TECHNICIAN:	ZCM
HOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hide startly Hills Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/2021	SAMPLED BY:	CRG
TEST DATE:	10/21/2021	SOURCE	BH 102 17-20 Native
SAMPLE	Red Lean Clay with trace a	mounts of gypsum.	AASHTO Classification A-7-5. FHA
DESCRIPTION:	2 B.2		

Uquid Limit Can No. 6 23 31 Mass of can 20.59 20.97 20.76 Can # wet 40.98 39.33 37.77 Can + dry 34.83 33.13 31.85 *M 43.19 47.73 49 36 33 20 15 Blows N Biows Required 25-35 20-30 15-25

H	15
20.54	20.55
29.79	90.13
28,44	29.71
17.09	17.40

ΠE	46
PI =	29

Classification	ct



^{*}Use linear or logarithmic trendline equation with x=25 to calculate liquid kmR^4

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1329 Ninth Street Rock Springs, Wy 82901 307-362-5480 WWW.Westamagi.com



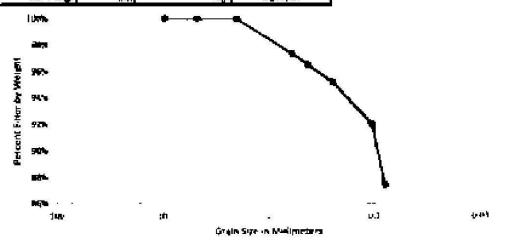
		177
Faurothchild	TECHNICIAN:	ZCM
21-1006	TEST METHOD:	ASTM C117 & C136
Hideaway Hills Subdivision	SAMPLE NUMBER:	
9/78/2021-10/1/2021	SAMPLED BY:	CRG
10/21/2021	SOURCE	8H 102 17-20' Native
Red Lean Clay with trace amo	unis of avasum. AASH	TO Classification A-7-5. FHA = 8.3
	Fourothchâld 21-1008 Hideaway Hills Subdivision 9/78/2021-10/1/2021 10/21/2021 Red Lean Cley with trace amo	21-1006 TEST METHOD: Hideaway Hills Subdivision SAMPLE NUMSER: 9/78/2071-10/1/2021 SAMPLED BY: 10/21/2021 SOURCE Red Lean Clay with trace amounts of gypsum. AASH

Pan = 654.7

Sleve Number	Seve Size (mm)	Wagfit Kétamed + Pan (gm)	Weight Rétained (gm)	Hercent Retained	Percent Finer
0.375	9.53	654.7	0.0	O%	10 0%
4	4,75	654.7	0.0	0%	100%
10	2	654.6	0.1	0%	100%
30	0.5	564.1	9.5	3%	97%
40	0.425	657.7	3.0	3%	97%
60	0.25	659.4	4.8	5%	95%
140	0.106	666.1	11.4	8%	92%
340	0.66	671.3	15.6	13%	87%
P⊋n		657.4	315.7	100%	0%

Total 361.1

Uniformity Coefficient, Percent Moisture, and Mass Last		Washing			
Initial Mass:	361.1	% Moisture:	15.01%	Irdial Mass	361.1
Final Mass:	361.1	D20:		Mass of Pan + Soll (8)	751.78
% Mass Lost:	D.0%	E30:		Mass of Pan + Soll (A)	438.82
Den!	0.855	060:	81940 NO TO	Mass Passing 200	313.0
Tim + Mg:	2.9	C _c :	#DIV/OI		
Tin + Mu:	3.2	C _{i,} ;	rbry/bi	7	



Reviewed by: 2stk Meek Date: 10/16/2021

Date Created: 10/3/16 CONFIDENTIAL BUBLECT TO PROTECTIVE ORDER Date Revised; 2/11/21

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CLIENT:	Fourethchild	TECHNICIAN:	ZCM
JOB NUMBER:	21-1006	TEST METHOD:	A5TM 04318-10
PROJECT:	Hidemony HPIs Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/2021	SAMPLED BY:	CRS
TEST DATE:	10/21/2021	SOURCE	BH 104 0-9
SAMPLE	Red Lean Clay with sand y	with traces of gypsum	L AASHTO Classification A-7-6,
DESCRIPTION:			

15-25

Liquid Limit Can No. 13 GG 15 20.73 20.80 Mass of can 20,77 39.40 40.07 Can + wet 35.57 Can + dry 33.53 **13.66** 35.00 * 44,87 47.05 49.79 28 23 15 Blows N

20-30

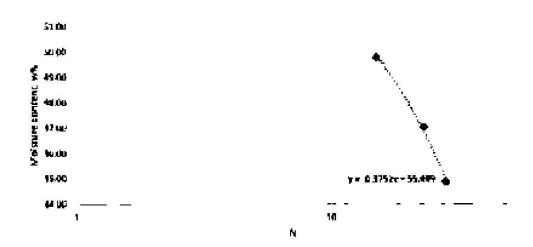
25-35

Plantic Limit		
12	22	
20.65	20.96	
25,98	29.32	
25.91	27.72	
20,34	20.71	

Щ=	46	
PI •	26	

Blows Required

The second secon	
Classification	a



^{*}Use linear or logarithmic trendline equation with a = 25 to calculate liquid limit*

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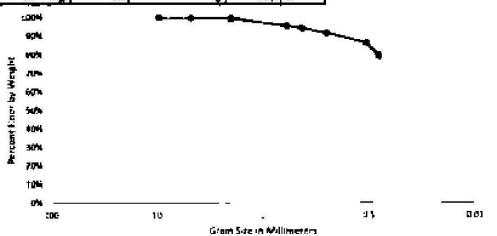
CLIENT:	Fexrethelid	TECHNICIAN;	2CM
ICH NUMBER:	21-1008	TEST METHOD:	ASTM C117 & C195
PMOJECT:	Hideaway Hith Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/20/2021-10/1/2025	SAMPLED BY:	CRG
TEST DATE:	10/21/2021	SOUNCE	BH 104 0-9"
SAMPLE DESCRIPTION:	Red Lean Clay with sand with	traces of gypsum. AAS	HTO Classification A-7-6, FHA = 2.9

Pan = 554.7

Sleve Number	Sieve Size (mm)	Weight Retained + Pan (gm)	Weight Retained	Percent Retained	Percent Firms
0.375	9.53	654.7	0.0	0%	100%
4	4.75	554.7	0.0	0%	100%
20	2	655.I	1.4	0%	100%
30	4.5	670.4	15.7	4%	90%
40	0.425	560.1	5.4	5%	95%
50	D. 25	565.7	10.5	8%	72%
140	0.106	675.0	21.3	13%	87%
200	0.00	584.0	25.4	20%	80%
Рам		641 2	377.6	100%	nyi

Total 411.4

Unflormity C	Uniformity Coefficient, Persent Moisture, and Mins Lost		Washing		
Initial Mass:	411.4	% Motsture:	24.37%	trittlei Mass	411.4
Fired Atma:	4114	D10:		Mass of Pan v Soil (B)	892.21
N Mass Lore:	0.0%	D30:		Mass of Pan + Soil (A)	591.08
Tint	1.06	060:		Mass Passing 200	301.1
Tin + M _b :	4.9	C _c t	WOIV/01		
Tin + M	5.0	G.:	#O(V/O)	7	



Reviewed by: Zack March Date: 10/26/2021

Date Created: 10/3/16 CONFIDENTIAL SUBJECT TO

PROTECTIVE ORDER

Date Revised: 2/12/21

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1329 Winth Street Rock Springs, WY 82901 307-362-5190 www.westernegl.com



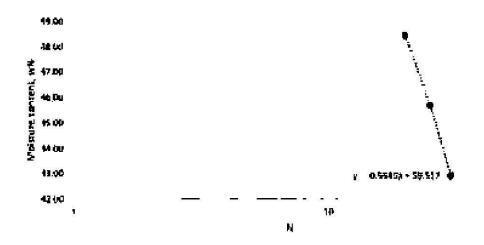
0-07			
	Feyerothehild	TECHNICIAN:	ZCM .
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04516-10
PROJECT:	Hideway Milk Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/7021	SAMPLED BY:	ĊRG
TEST DATE:	10/21/2021	SOURCE:	BH 104 9-14*
SAMPLE DESCRIPTION:	5 8	with traces of gyptum	. AASHTO Classification A-7-6.

	Liquid Lirett			
Can No.	19	21	*	.819.5
Mass of can	20,62	20.65	20,90	
Can + wet	42.68	37.62	39.23	
Can + diry	35.05	32.90	33.25	
***	42.68	45.67	48.42	
Blaves M	30	25	20	
Blows Required	25-35	20-30	15-25	

35	11
20. 81	20.89
27.57	28.22
26.50	27.09
18.80	18.23

tL=	46
P1 =	27

Classification	CL



^{*}Use linear or logarithmic trendline equation with κ = 25 to calculate liquid limit*

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

1329 Ninth Street Rock Springs, Wy 82901 307-362-5160 www.westernegl.com



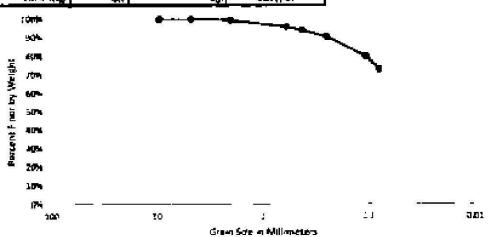
CLIENT:	Fouratherlid	TECHNICIAN:	ZCM
JOB NUMBER:	21-1006	TEST METHOD:	ASTM C117 & C136
PROJECT:	Mideaway Mills Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/2021	SAMPLED BY:	CRG
TEST DATE:	10/21/2021	SOUNCE	BH 104 9-14"
SAMPLE DESCRIPTION:	Red Lean Clay with Sand with	iraces of gypsum, AA3	RHTO Classification A-7-6. FHA = 2.4

Page = 654.7

Sieve Number	Sieve Size (mm)	Weight determed fi Pan (gm)	Weight Hetained (gm)	Percent Retained	Aercent Finer
0.375	9.53	654.7	φn	179K	100%
4.	4.75	654.7	9,0	ON.	7000
10	. 2	656.6	1.0	1%	99%
30	0.6	665.5	11.2	4%	96%
40	0.425	660.6	6.0	6%	94%
60	0.25	666.3	11.6	9%	91%
140	0,106	Gate,5	23.9	20%	80%
200	0.06	677.£	23.0	27%	75%
Pan		676.1	757.8	100%	[MG

Total 325.4

Uniformity Coefficient, Percent Moisture, and Mess Lost			Washing		
Initial Mass:	325.4	% Moisture:	22.47%	Iritial Mass	325.4
Final Mass:	325.4	D10:		Mass of Pan a Soil (B)	759
% Maus Losti	0.0%	D30c		Mass of Pan + Scil (A)	542.62
Thet	0.955	060:	36 18	Mass Paisting 200	716.4
Tin + Mg:	3.2	C _c :	#Dry/Ol		
Tin e Ma	3.7	C.f.	WORY/O		



Reviewed by: Zack Meek Date: 10/26/2021

Date Crested: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

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1329 Ninth Street Rock Springs, WY 82901 307-362-5180 www.westernegi.com



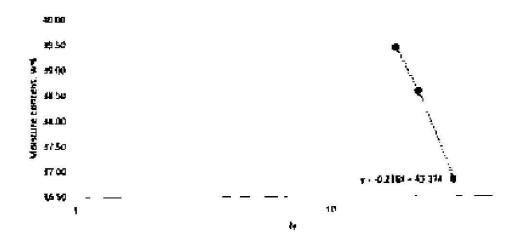
JOB NUMBER: 21-1	OC.	0 10 10 10 10 10 10 10 10 10 10 10 10 10	
	UVO	TEST METHOD:	ASTM D4518-10
PROJECT: Mide	oway Hills Schulbrickum	SAMPLE NUMBER:	
SAMPLE DATE: 9/28	/2021-10/1/2021	SAMPLED BY:	CRG
TEST DATE: 10/2	1/2071	SOURCE:	Ви 106 9-14

	Liquid Limit					
Can No.	ND	14]	76			
Mass of can	20.75	20.85	20,70			
Can + wet	41.74	39.49	43.29			
Can + cbry	95.09	34.30	36.90	_		
%M	36,63	38,59	39.44			
Blows M	30	22	18	_		
Bland Gardered Bland Gardered	36.36	30.40	15.35			

Plastic Limit			
LIB			
20.55			
30.13			
28.71			
37,40			

<u>u=</u>	38
Pi •	21

Classification	a



^{*}Use finear or logarithmic transline equation with x = 25 to calculate (iquid limit*

CONFIDENTIAL BUBLECT TO PROTECTIVE ORDER

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1325 Miruh Street Rock Springs, Wy 87901 307-352-5180 www.westernegi.com



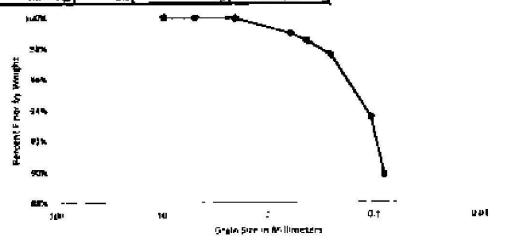
CLIENT:	Fearethchild	TECHNICIAN;	ECM
JOS NUMBER:	21-1006	TEST METHOC:	ASTM £117 & £136
PROJECT:	Hideaway Hills Subdivision	SAMPLE NUMBER:	
SAMPLE DATE:	9/28/2021-10/1/2021	SAMPLED BY:	CRG
	10/21/2021	SOUNCE	8H 106 9-14"
SAMPLE DESCRIPTION:	Red Lean Clay with Iraces of p	pypum AASHTO Class	Vication A-5. FHA = 5.9

Par = 654.7

Slave Number	Sieve Size (mm)	Weight Hetained (Par [gm]	Weight Retained (gm)	Pércent Received	Persent Finer
0,375	9.53	654.7	0.0	5%	100%
*	4.75	654.7	b.u	. 0%	100%
10	2	634.5	0.2	0%	100%
30	2.6	658.3	3.7	1%	99%
40	0.425	656.4	1.8	2%	92%
60	0.25	658.2	35	2%	98%
140	0.106	569.7	15.I	6%	94%
200	0.08	558.9	14.2	10%	90%
Pan		860.4	337.9	100%	1756

Total 376.4

Uniformity C	pelliciant, Pa	ncent Meisture, en	Whishing	V <u>. e</u> 2	
metic Mess:	376,3	% Mobiture:	24.32%	initia) Mara	176.3
Final Mest:	3763	D10:		Mass of Pan + Sori (8)	768.19
M Mass Lost:	0.0X	030:		Mass of Pari + Solf (A)	486
Terc	1.06	060:	ii e	Mass Passing 200	332.2
Tim + Ma:	4.9	C _o	BOKV/DI		
Tin + M.	5.8	C,;	MDRV/01		



Reviewed by: Zack Meek Date: 10/26/2021

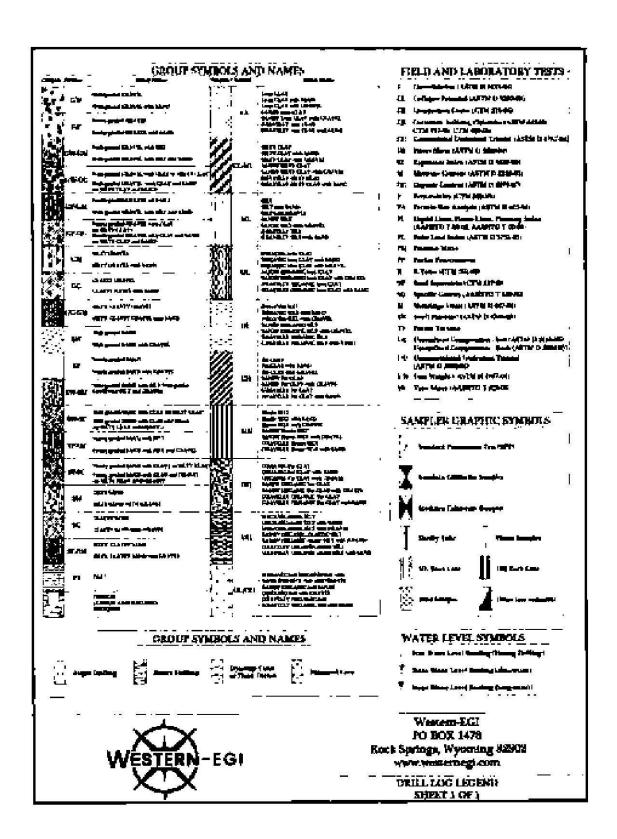
Date Created: 10/3/16

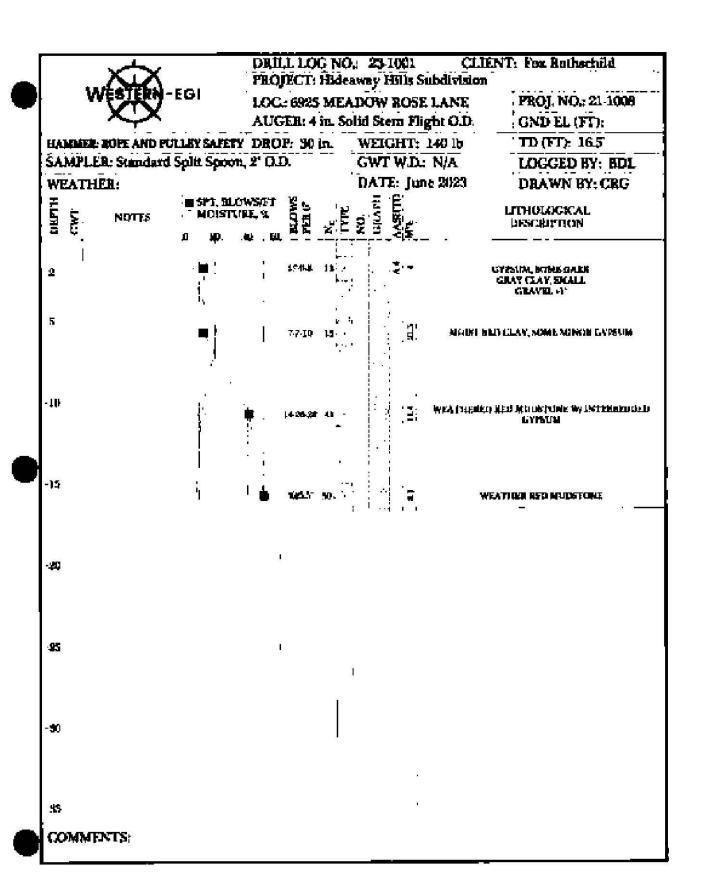
CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

Date Revised: 2/13/21

APPENDIX B

2023 BORE LOGS

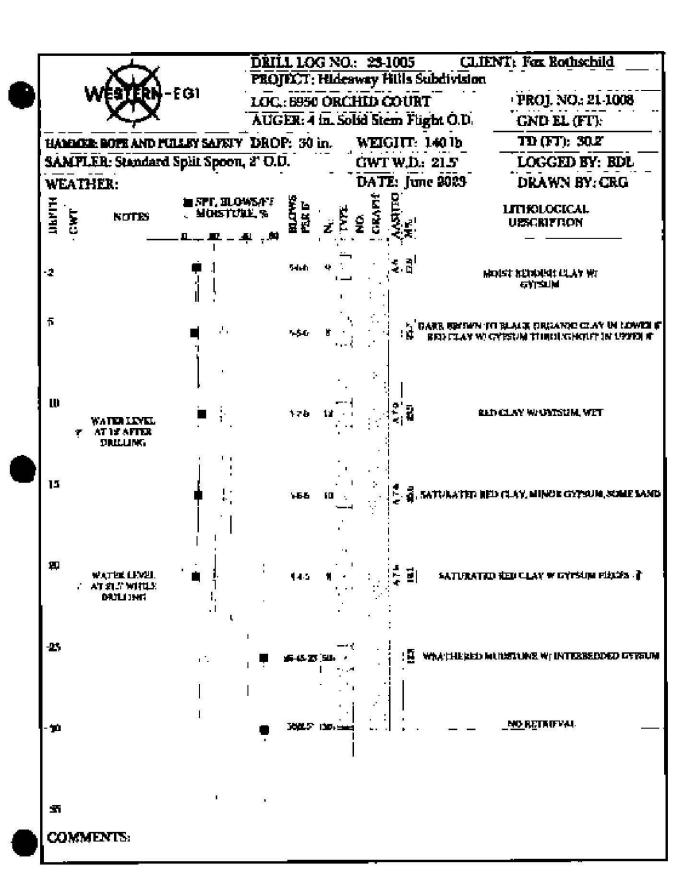




: •	XX	2000 2000	DRILL LO PROJECT:			(I.F.) bdivision	ENT: Fox Rothschild
W		EGI	LOC.: 6870 AUGER: 4	MEADO	W ROSE	LANE	PROJ. NO.; 21 1008 GND EL (FT):
HAMMER: R	OPE AND PU	LLEY SAFETY	DROP: 30	ln. WE	EIGHT: 1	140 lb	TD (FT): 3L3
AMPLER	: Standard	Split Spoon,	2 O.D.	GV	vr w,D.;	N/A	LOGGED BY: BDL
WEATHE	 Ц:	n ()	3 15	_ DA	TE: June	2023	DRAWN BY: CRG
CAWI	NOTES	■ SPT, BL/SW · MOASTUR · P = 0	TATOM STATE	Z 2 Z	AASHTTO		IJTHOLOGICAL DESCRIPTION
2		=	6-6- 7	10 5 20 5	1.3		MOIST RED CLAY
7		•	1-55	F	<u>ਜ</u>	URY MEDI	LAY W/ SMALL PERCES OF GYPSUM
ib		• .	454	5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- PV	Mpno	ምና ያታው CLAY AND ርትምህM
13			154			ыст	IST RED CLAY AND CYPSI IN
B Ó		<i>}</i> ■ ₹.	445		914	Mojski nisto s	:LAY AMD INCREASING AMMINIT O GYPSUM
25		•	Spatia		1	MOUT E	ED CLAY AND CYTSUM FEREN - I' SATIFEATED
30		, · ·	15-57 167-57	 	4		
1 5				X	30		
COMMEN	iTS:						

X	άχ		NO: 23-1003 Hideaway Hills St	
WE	TERN-EGI		MEADOW ROSE	
^	<u> </u>	AUGER; 4 i	n. Solid Stem Flig	thi O.D. GND EL (FT):
	Z AND PULLEY SAFET		n WEIGHT:	140 lb TD (FT); 25,3
SAMPLER: S	tandard Split Spoo	n, 2° O.D,	GWT W.D.:	N/A LOGGED BY: BDL
WEATHER:			DATE: June	e 2029 DRAWN BY: CEG
TWO:	OTES PAGE	OWNET Sto	NO. GRAFIII GRAFIII	LITHOLOGICAL DESCRIPTION
¥	. ;,	847	1	IISD CILAY W/ MINNY O'NGANICA
3		7.7.41	s	HITH COMP. MITH CHANNIM
ın		£3.4	4.	LEED CLAY WITH CYPNIEM
15	4 , □!	414	7 - 1 Z.	WED CTYA MALM CALEMY -1.
20). 13	 	# 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ped wenytjeska me ostonie kodst
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ds	 ≥ ≥	!		-
COMMENT	Š:			

,	TOTAL T AND MAN AN 1801	· CH TELET. To Desk-1913
X ₁ X	DRILL LOG NO.: 23-1004 PROJECT: Hideaway Hills Sub	CLIENT: Fox Rothschild division
Western-EGI	LOC.: 5705 MEADOW ROSE L AUGER: 4 in. Solid Stem Pligh	ANE PROJ. NO. 21-1008
HAMMER BOPE AND FULLEY SAFETY	N/68	
SAMPLER: Standard Split Spoon		
WEATHER:	DATE: June	2029 DRAWN BY: CRG
E NOTES MOISTU	Mest And Art Mest And Art Mest And Art Mest Art	HTTEOLOGICAL DESCRIPTION
	88-10 (d , 2	MOEST OLIVE CREEN CLAY W/ CYPSING
5	4≅5 ₹ ₹.₫'	WET SARIN INDICIAL WYSYMUM
IN WATER LEVEL (A) DE AFTER DROLLING	5-8 to 14 2: 5	WET BED LIAY W, LYZSUM WEATHILB RI, USTONE IN LOWER 1-
15	I	WET WEATHFRAD MARKETYNEI
\$tT		
£5		
-90		
	l i	
-15		
COMMENTS:		



HAMMER: BORE AND PULL SAMPLER: Standard Sp WEATHER: NOTES WATER LEVEL TO AT BY AFTER DEALLING		T 80 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C	VEIGHT: WT W.D.: ATE: Jun E-VIEN STEEL	20.5 ne 2023	TD (FT): 20,75 LOGGED BY: E DRAWN BY: CI LITHOLOGICAL INSCRIPTION CLAY WICKNESS	DI.
WEATHER: D NOTES S O NOTES WATER LEVEL Y. ATRE AFTER	M SPT, BLOWS/F I MOISTURE & D _ M _ M	T SACTED TO TO TO	NO.	ATE: Jun	ne 2023	DRAWN BY; CI LITHOLOGICAL DESCRIPTION	
WATER LEVEL TO AT RES AFTER	DENOISTURE &	107	7 E 2	CHAPH	ı	LETHOLOGICAL DESCRIPTION	
S WATES LEVEL Y. AT RS AFTER	; i		ह.ं शि*् '	4	KPJ.	COLAT W/ CVISSING	
WATES LEVEL Y. AT ME AFTER	1 27	1765*1	82				
T. AT MY AFTER	100 100		1 .			NIC MATEIRAL, STEOM ST BED CLAY WITH GYTS	
ALIMER VA. IR.	• /	433	· ·	- "麦爾市	1015T TO WIT NO.) FILAY, SCIME FIVEN (M., 1	DELIGANISES
15	•	15-36-34 5	j . D,	S.	rki) randa ci va	, admie Griffing Anglej	лү бакф
独)	•	W. SOVIET S	nţV,	2		THE STATE OF TOWER IN	
45 45							
343							
85 COMMENTS:	,						

X [†]	X).: 23-1007 saway Hills Su		NT: Fox Rothschild
WEST	RN-EGI	LOC.; 697	70 Dat	y Drive	1. A 5	PROJ. NO.: 21-1008
	<u>^</u> .			olid Stem Flig	•:	GND EL (FT);
	nd fulley safety		Ø im.	WEIGHT: 1		TD (FT): 6.5
SAMPLER: Stan	dard Split Spoon.	2" O.D.		GWT W.D.:	N/A	LOGGED BY: BDL
WEATHER:		6 3 2 3 5 6 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	- 100-	DATE: June	2023	DRAWN BY: CRG
NOTE S	் கூட்டிர் இது பிர்கள் இது பிர்கள் இது பிர்கள்	WS/FT & V		NO AASIDTI AASIDTI		EFFIGLOGICAL DESCRIPTION
· 3	F ₹	j	نې د ۱۵ کا د د		w	EATHRED SHALE W. CYPRUM
f		\$ \$504.5	dua o	. Z 5 **	WINDER TO U	indel his or cheel may 1252. Here is the court of the sold. Here is the court of the sold. Here is the court of the sold.
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OMMENTS:		116		* . 1 <u></u>	- 1-1	

XX	DRILL LOG NO PROJECT: Hide	O.: 23-1008 CL eaway Hijis Sundivisio	IENT: Fox Rothschild
WESTERN-EG	LOC: 5091/511	1 BLUEBELL	PROJ. NO.: 21-1008
, XX	AUGER: 4 in. S	olid Stem Flight O.D.	GND EL (FT):
HAMMER BOPS AND PULLEY	SAFETY DROP: SO in.	WEIGHT: 140 fb	TD (FT): 15.2
SAMPLER: Standard Split	t Spoon, 2" O.D.	GWT W.D.: N/A	LOGGED BY: BDL
WEATHER:		DATE: June 2023	DRAWN BY: CRG
	SPT. SILOWSET SES MOISTURES OF SES	NO. CHAMIETO ANA.	LITHOLDGICAL DESCRIPTION
g	i ₁ 122 ().	1	NED CLAY WY ORGANIES AND GYTSIDN
5 . .)]	. 5	WET OLIVE CRAIN CLAY
TO .	; 		PURATES OLIVE CREEN CLAY POSH SHALK IN BOTH OIK IAC
3.5	■ 200°2× 20°2		NO RETUEVAL
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COMMENTS:			

WESTERN-	to:	1 111 1	: Hide	tway l	One S	ubdi vision	
MESTED.	ī	LOC: 674					PHOJ. NO.: 21-1008
~~	T	AUGER:					GND EL (FT):
LANGUER: BOTE AND IT) in			140 lb	TD (FT): 30.1°
AMPLER: Standard	Split Spoon,	zon.			W.D.		LOGGED BY: BDL
WEATHER:				DAT	L: Ju	re 2023	DRAWN BY: CRG
NOTES	EST.BLOW MOISTURE	5/FT \$ 6 2. 9 5 1 60	₹.	ND.	## ##		L ^e tiological p es ciaption
ĭ	₹ : 1	+5-4	* 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1		8 51		BED CIAN WEEKS IN THE THAN CHEST OF THE
5	k *€	314	ų,		6.64	WET OLIVE O	REEN AND CRAY CLAY W/SOME RE CLAY
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4 5 ·	<u> </u>	·		1			
COMMENTS:							

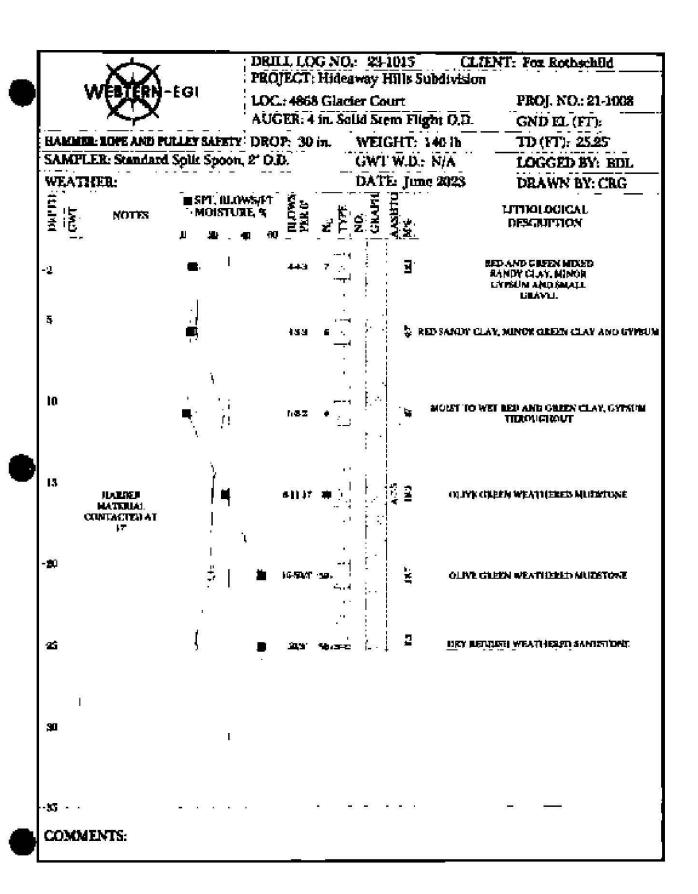
	1		l log no			IENT: Fox Rothschild
W STEP	- EG 1	LOC	: 6823 EAS	iway Hills S F DAISY DE Aid Siem Fli	EIVE	n PROJ. NO.: 21-1008 GND EL (FT):
RAMMER: BOYE AND TH	ULLEYSAFETY	_		WEIGHT:	9 .110 50	TD (FT): 15.1
SAMPLER: Standard				GWT W.D.		LOGGED BY: EDL
WEATHER:				DATE: Jur	ne 202 3	DRAWN BY: CRG
ET NOISE	SPT, RLD MOISTUS	W\$/FT EE, 76 40 . 40	SALWE FER P	CRAPI CRAPI AASTIU Ket		1FF80L0GICAL DESCRIPTION
E	. .Ÿ		4457 ID : (1)			RED SAMPY CLAY WITH SOME OLIVE GREEN CLAY AND CYTSI:M
s	i e j		455 a	12	BELLSAND	A COTAA ANTOL CLAIRPONT LUNCOTATI KON.)
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COMMENTS:						

	·		VO.: 23-1012 Ceaway Hills Subdiv	CLIENT: Fox Bothschild_
WESTERN		<u> </u>	Solid Stem Flight O	
HAMMER: ROPE AND PL SAMPLER: Sundard WEATHER:			WEIGHT: 140 II GWT W.D.: N/A DATE: June 202	LOGGED BY: BDL
E S NOTES	SPI, REZV MOISTUR D Sp 4		CHAPITED AND THE SECOND	DESCRIPTION DESCRIPTION
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100000	AMMED: BOTE AND P	the same and the s	The same of the same of the same of	<u> </u>			140 јь	TD (FI)	
-	AMPLER: Standard	s aput apoon	, E OTF		1 320		N/A		D NY: NDL
	VEATHER:	SPT, BLO					ne 2023	DRAWN	BY: CRG
DEGREE	NOTES	_ b _ za	WAVET SA LA RE, 9 CO PE	¥ 2	NO GRAFIE	AA.	1 - 4 :	DESCRIPTI	
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AMERICAN RULLEY SAINTY DROP; SO IN. AMPLEH: Standard Split Spoon, Z O.D. AMPLEH: Standard Split Spoon, Z O.D. DATE: June 2023 DRAWN BY: CRG LITHOLOGICAL DESCRIPTION DIGGARG CLAY WITH PLANT MATTER TO REAL TRAY AND GYPSUM AT 16 14 DATE: DIGGARG CLAY WITH PLANT MATTER DATE: DIGGARG CLAY WITH PLANT MATTER TO REAL TRAY AND GYPSUM TO REAL TRAY WITH PLANT MATTER TO REAL TRAY WITH PL	w(·伊文	EGI	LOC	.: 640!	W. EL	MW	OOD		
AMPLEE Standard Spite Spoon, 2" O.D. WEATHER: DATE: June 2025 NOTE: MOST RELOWSET Secretary Sec	,	Ÿ.		AUG	ER: 4	in. Soli	id Ste	m Flig	6i O.D.	GND EL (FT):
DATE: JUNE 2023 DEAWN BY: CRG MORSTURE, 4 MORST RED CLAY WITH FLANT MATTER DESCRIPTION DESCR						ln.				TD (FT): 21.5
MOSTURE MOSTURE AND STREET SAME FROM STR	SAMPLER	Stundard	Split Spoon,	Z 0.1	D.	30 20 € 0.00				LOGGED BY: BDL
MOST RED TAAY AND SOTSUM AT BOTH BY STANDARD STANDARD SOTSUM AT BOTH BY STANDARD STANDARD SOTSUM AT BOTH BY STANDARD SOTSUM AT WEATHERD GREEN MUDSTONE AT BOTH BY STANDARD SOTSUM AT WEATHERD SOTSUM AT WEATHER SHALL IN BOTTOM IT		Li			5.00 m		DAT	R: June	2023	DBAWN BY: CRG
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MOST REDUCAY AND COYPEUM 10	2					5 . 500	10	i Î		
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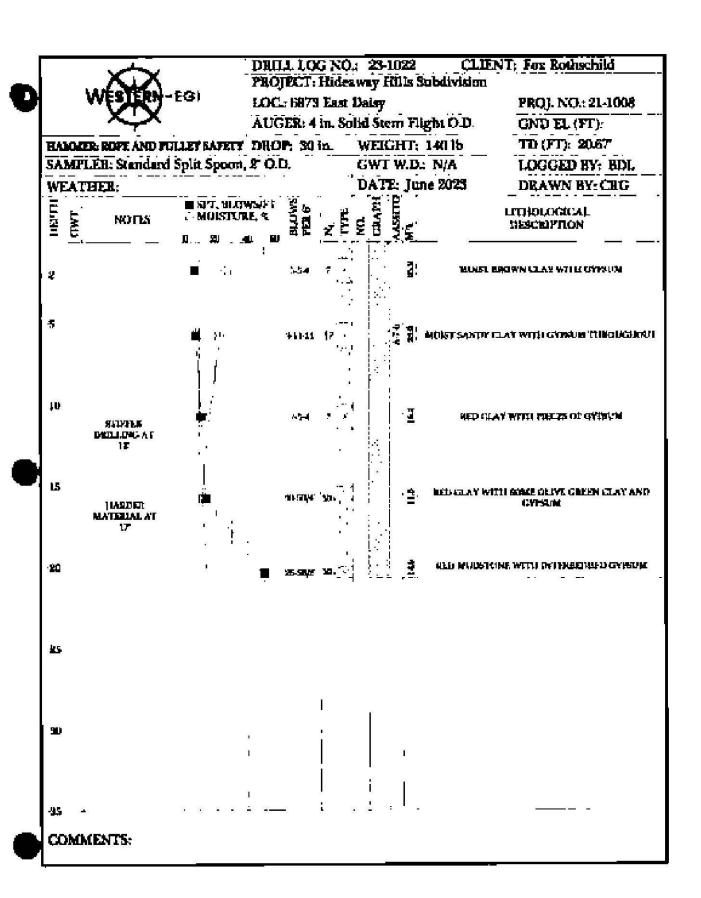


		NO: 29-1016	CLIENT: For Bothschild
WESTERN-EGI	₩ 1000	Hideaway Hills Subd	
"X"X"		DANE LANE	PROJ. NO.; 21-1008
		n. Solid Stem Flight	
HANDER: ROPE AND PULLEY SA SAMPLER: Standard Split S		s. WEIGHT: 146 GWT W.D.: N	
<u> </u>	poors on	DATE: June 2	
WEATHER: = ■5P1	T. SECONOMET T SE N	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	
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COMMENTS:			

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	ANERTERIA.		LOC., 6801			1026 NO.006 - 1000000	J, NO.: 21-1008
	~~	_ 3	AUGER: 4	in. Solie	i Stem Flig	ht O.D. GN	EL (FT):
	ZR. ROPE AND PU			ln. Y	VEIGHT: 1	40 lb TD	(FT): 32.5
AMI	LFR: Standard	Spin Spoon, 3	r O.D.	C	WT W.D.:	21' LOC	GED BY: BDL
WEAT	MEA:			T	IATE: June	2023 DRA	WN BY: CRG
DEPTH CWT	NOTES	MOISTURE	THE CANADA	z E g	GASTTO MASTTO		LOGICAL
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20	WATER LEVEL AT 27 WIGHT PRINTING	 	<u> </u>	, i j. i ,50a · r		снауын сал	an maranananan
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95			2	in in	s " "		
COM	MENTS:						

LOC. 6810 Meadowrose Lane AUGER: 4 in. Solid Stem Flight O.D. GND EL (FT): HAMME FOR AND FULLEY SAFETY DROF: 30 in. WEIGHT: 140 ib TO (FT): 10.2 SAMPLER: Standard Split Spoon, 2° O.D. WEATHER: SPT. BLOWNEY: 2 2 2 2 DRAWN BY: CRG MOISTURE, 8 3 2 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. AUGERITHM ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: 2 2 2 2 2 2 INTRODUCTION. PARTY BUT ST. BLOWNEY: CRG PARTY BUT ST. BLO		DRILL LOG NO	23-1018 C1	IENT: Fox Rothschild
HAMBER SOFR AND FULLTY SAFETY DROP; 30 in. SAMPLER: Standard Spin Spoon, 2° O.D. WEATHER: DATE: June 2023 DRAWN BY CRG JUNE 100 100 100 100 100 100 100 100 100 10	WESTERN-EGI			PROJ. NO.: 21-1008
SAMPLES: Standard Spile Spoon, 2° OD. WEATHER: DATE: June 2023 DRAWN BY: CRG LITHOLOGICAL. DESCRIPTION DRY RED CLAY AND GYPRIM 10 SMEST 19 SMEST 19	HAMMER ROSE AND FULLEY SATERY	. 	· - - ·	25 page
WEATHER: BATE: June 2023 DRAWN BY: CEG LITHOLOGICAL. DESCRIPTION PAY RED CLAY AND GYPSUM No. RETRIEVEL SINCE TO				
MOTES MOTES MOTES AND REPORT OF THE PROPERTY O		1887) 	DATE: June 2023	
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	SE COMMENTS:			

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WESTEN FG) LOC: VIBS East Daisy North End Drill BR: 4 Drag Bit AMODEN A DROP: NA WEIGHT: N/A AMPLER: NA JEATHER: 91 Degrees F, Clear STT. 01.00% AT 2 June 19, 2023 DRAWN BY: CRG DRAWN BY:	Х	:	DRILL LOG NO PROJECT: HIS	D.: 23-005 C.L.: naway HUIs Subdivision	ENT: Fox Rothschild
AMPLER: NA	WESTERN-	EGI	LOC- 7093 Eas	Daisy North End	PROJ. NO. 21-1008
AMPTER: NA VEATHER: 91 Degrees F, Clear Seri, DLUWS/FT St. MOISTURE: 92 DEGREES F, Clear MOISTURE: 91 DEGREES F, Clear MOISTURE: 92 DEGREES F, CLEAR MO			_ Drill Bit: 4 🔭 Dr		
DATE: June 19, 2023 DRAWN BY: CRC ST, DLUWS, FT \$ 16 MUITS MUISTURE 9, 202 SI COLVE GREN CLAY MUST OLIVE G	AMMEN NA		DROP: NA		TD (FT): 32
MOST OLIVE GREEN CLAY	AMPLER: NA	No. CONTR.	70		
MOST CLIVE CREIN CLAY MOST CLIVE CREIN CLAY MOST CLIVE CREIN CLAY MOST CLIVE GREEN CLIVE GREEN CLAY MOST CLIVE GREEN CLIVE GREEN CLIVE GREEN CLIVE MOST CLI	VEATHER: 91 Degre				DBAWN BY: CRG
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MOST OLIVE GREEN CLAY	!				OLIVE FRANCIN ELAY
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TAN SILTY SAND FATSURE LEVEL AT 30 WHILE DRILLING MATERIAL AT SILTY SAND LEVEL TO THE COME	o	4		MORATOLIVI	
MATER LEVEL AT 50 WAILS INSTALLING MATERIAL AT MATERIA	5-	sa Ere			
MATERIAL AT STATE OF THE PARTY	WATER LEVEL	6 6	, , (6)		
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or a count.	COMMENTS:				

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WESTERN	-EGI	LOC.: 7093 Eas	n Daisy Back Yard	PROJ. NO. 21 1008
X + X		Delli Bir: 4 7 D	rag Blt & Tricone >2	O GND EL (FI):
AND/TER: NA	3 0	DROP: NA	WEIGHT: N/A	TD (FT): 50
AMPLER: NA	*		GWT W.D.: NA	
EATHER: 91 Degr	rees F. Clear	τ	DATE: June 19, 2	023 DRAWN BY: CRG
	SPT, DLC			LITHOLOGICAL
NOTES	: MOISTL	DWS/FT WAS BELL	NO. NO. GRAPIT	DESCRIPTION
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COMMENTS:				

WESTERN	-rei	PROJECT: I	NO.: 23-006 cont'd CLU lideaway Hills Subdivision	
ANESTERN.	- 231		East Dairy Back Yerd	PROJ. NO.: 21-1008
			Drag Bit & Tricone >20	GND EL (FT):
HAMMUDE NA		DROP: NA	The state of the s	TD (FT): 50
SAMPLER: NA			GWT W.D.: NA	LOGGED BY: CRG
WEATHER: 91 Deg			DATE: June 19.2023	DRAWN BY: CRG
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COMMENTS:				

ريشي	DRILL LOG N	O.: 29-007 CLIE	NT: Fox Rothschild
	PROJECT: His	eaway Hills Subdivision	
WESTERN-EGI		at Daisy S. Front Yard	PROJ. NO.: 21-1008
×÷×		rag Bit & PDC Bit >20	GND EL (FT):
ANOLER: NA	DROP: NA	WEIGHT: N/A	TD (FT): 40
AMPLER: NA		GWT W.D.: 38	LOGGED BY: CRG
VEATHER: 76 Degrees F. Partl	e Claude	DATE: June 20, 2023	DRAWN BY: CRG
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COMMENTS:			

	XtX			G NO.: 29-007 cont Hideaway Hills Sub	'd , CLIENT: Fox Rothschild division
	WESTERN-	·EGI	LOC: 7093	East Daisy Back Ye	rd PROJ. NO 21 1008
	XĻX			Dreg Bh & PDC B	
TAMO	MEEL NA		DBOP: NA		
	PLEE: NA			GWT W.D.: 3	
	THER: 76 Degra	ees F, Parul	v Cloudy	DATE: June :	
		SPT. BLC			LITHOLOGICAL.
ONLY THE	NOTES	MOISTU	DWSAT ALL	N. NO. CUANITA	DESCRIPTION
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	WATERLEYE				LOST CIBCULATION NO REVITORS
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		PROJECT:	3 NO.: 23-008 CL. Bideaway Hills Subdivision	ENT: Fox Rothschild
WESTERN-	EGI	LOC.: 6923		PROJ. NO., 21-1008
XÇX		Drill Bh: 4	Drug Bit & PDC Bit >20	GND EL (FT):
BAMMERS NA		DROP: NA	WEIGHT: N/A	TD (FT): 40'
AMPLER: NA			GWT W.D.: NA	LOGGED BY: CBG
WEATHER: 74 Degre	es F. Partly	Cloudy	DATE: June 20, 202	DBAWN BY: CRG
E is norma	■ 5PT, BLAC MOISTU 0 . 40	WS/FT SEE	NO. INC.	LITHOLOGICAL DESCRIPTION
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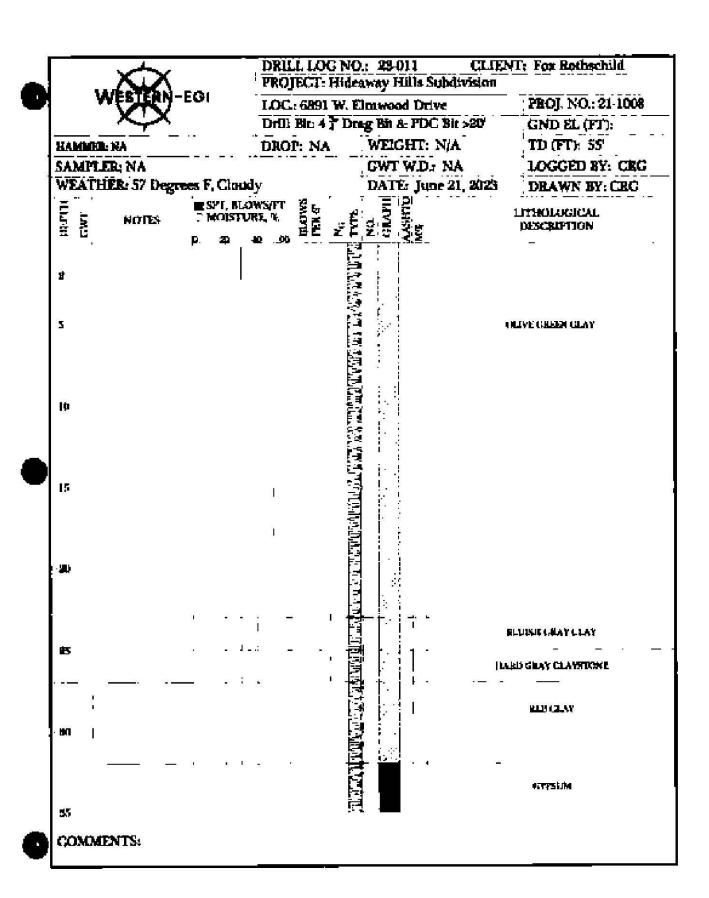
2 1	XX	Pal	PROJECT:	G NO. 23-008 contd CLU Hideaway Hills Subdivision	
No.	WESTEN-	·E61		East Daisy	PROJ. NO. 21 1008
	~~~		·	Drag Bh & PDC Bu >20	GND EL (FT)
ANDRE	e: na	_	DROP: NA		TD (FT): 40°
	ER: NA REIL: 74 Degr	ees F. Paril	y Cloudy	GWT W.D.: NA DATE: June 20, 2023	LOGGED BY: CRG DRAWN BY: CRG
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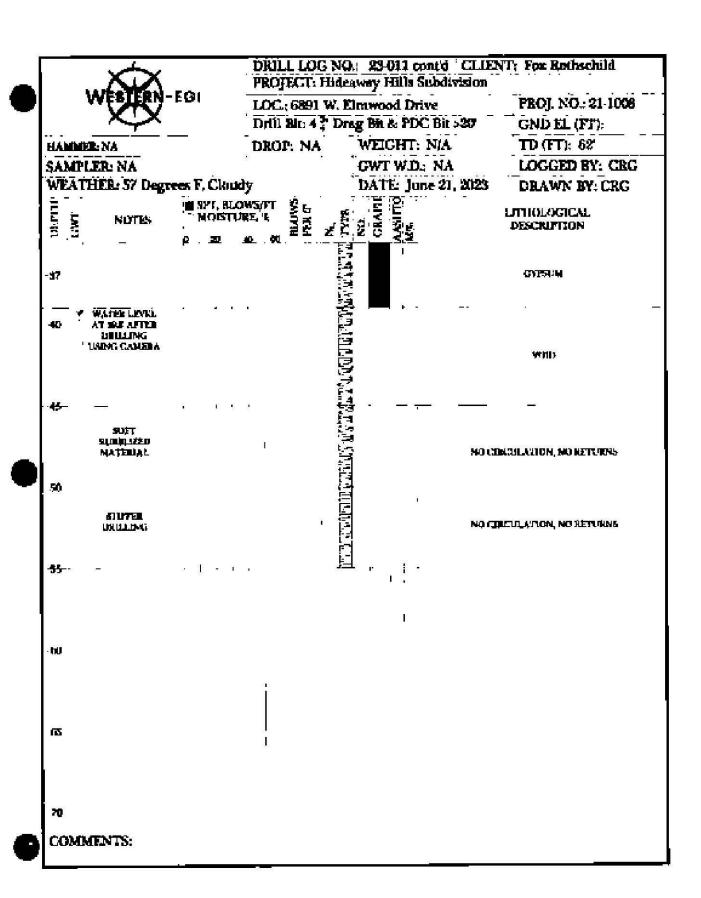
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WESTERN-EGI	LOC.: 6903 Éa		PROJ. NO.: 21-1008
ΧŢΧ		rag Bit & PDC Bit >20	GND EL (FT):
AMOREE NA	DROP: NA	WEIGHT: N/A	TD (FT): 40
AMPLER: NA		CWT W.D.: NA	LOGGED BY: CRG
VEATHER: 76 Degrees V, Pu	zio Cimulo	DATE: June 20, 2023	DRAWN BY: CRG
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NOTES NOTES	TUBER SEE SE	MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHUE MARSHU	LITISOLUCICAL DESCRIPTION
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COMMENTS:			

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		WESTERN-	EGI	LOC.		thansona gra			*	PROJ. NO., 21-1008
		ΧŢΧ						e PIX	Bit >207	GND EL (FT):
	HAMM	ED NA		DROP				HT:		TD (FT): 40
		LER: NA		*** ; ;			11-7-12-75	1920	NA	LOGGED BY: CBG
		HER: 76 Degr	ees F. Pari.	iv Čloudy	N.				e 20, 2023	DRAWN BY: CRG
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DTILL BIT. 4 TOTAL BIT. 20  DTILL BIT. 4 TOTAL BIT. 20  DTILL BIT. 4 TOTAL BIT. 20  GND EL (FT).  AMMER. NA  DROP: NA  DROP: NA  WEIGHT: N/A  DATE: June 20, 2023  DRAWN BY: CRG  ESTI, BLOWSET & C.		****	PROJECT: HA	VO.: 23-010 CLLIF deaway Hills Subdivision	NT; For Bothschild
AMPLER: NA  DATE: June 20, 2023  DRAWN BY: CRC  DRAWN	WESTER	-EGI			PROJ. NO.: 21 1008
AMPLER: NA VEATHER: 72 Degrees F, Partly Cloudy  TOTAL  MISTITUDOWS FT  MONTHER: X  DATE: June 20, 2023  DEAWN BY: CRC  LITHOLOGICAL  LIPENCRIPTION  MAD CLAY WITH SOME CLYSUM  CHISUM  CHIST  CHISUM	X	Ľ	Drill Bit: 4 7 1	Drag Bit & PDC Bit >20"	GND EL (FT):
WEATHER: 72 Degrees F, Partly Cloudy  B STT. BLOWSOT  MOSTER R  MOSTER R  DEAWN BY: CRG  LITHOLOGICAL  DESCRIPTION  RADGLAY MOST I FAS SAND  CONTROL OF THE STREET OF THE	AND/DER: NA	<del></del>	DROP: NA	WEIGHT: N/A	TD (FT): 62
MOTES MOST NOTES AND SET TO SEE LITHOLOGICAL DESCRIPTION  A SET TO MORE TURE & SEC TO SEC TO MEDICAL DESCRIPTION  A SET TO MORE TURE & SEC TO SEC TO MEDICAL DESCRIPTION  A SET TO MEDICAL MAND AND GRASUM  CHIEF TANK AND AND CHIEF TANK AND AND CHIEF TANK AND AND CHIEF TANK AND CHIEF	AMPLER: NA		10 May 2 May	GWT W.D.: NA	LOGGED BY: CRG
BADGLAY WITH BOME EVYAUM  S  MEDICAY WITH BOME EVYAUM	VEATHER: 72 De	grees F, Part	dy Cloudy		DRAWN BY: CRG
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WEST	RN-EGI	LOC.: 6892 Eas	Walter Salary W State	PROJ. NO.: 21-1008
- X;	X	Drill Bit: 4 🕈 🖸	rag Hit & PDC Bit >20"	GND EL (FT):
HAMMETS NA	80 80 m ab	DBOP: NA	WEIGHT: N/A	TO (FT): 55'
AMPLER: NA	=		GWT W.D.: NA	LOGGED BY: CRG
WEATHER: 72		dy Cloudy	DATE: June 20, 2023	DRAWN BY: CRG
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COMMENTS:				





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WESTERN	-EG)		Elmwood Drive	PROJ. NO.: 21-1008
X		Drill Bit: 4 7 I	rag Bit & PDC Bit >20	GND EL (FT):
AMBIDDE: NA	_	DROP: NA	WEIGHT: N/A	TD (FT): 61'
AMPLER: NA			GWT W.D.: 17	LOGGED BY: CRG
VEATHER: 56 Deg	rees F, Cloud	y	DATE: June 21, 2023	DRAWN BY: CEG
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				AFD-CLAY
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	$X \cup X$			L LOG N ECT: Hid	eaway Hills Subdi	vision
N	<b>VESTERN</b>	-EGI	LOC	6891 W.	Eltowood Drive	PROJ. NO.: 21-1008
	X		D#441	1961: 4 7 D	rag Rit & PDC Bit	>20 GND EL (FT):
iammed I	b WA	-	DROI	n NA	WEIGHT: N/A	TD (FT): 61
AMPL	ER; ÑA				GWT W.D.: NA	LOGGED BY: CRG
	EEL: 56 Degr	rees F. Clor	ady		DATE: June 21	, 2029 DRAWN BY: CRG
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X [†] X	DRILL LOG NO.: 29-018 CLI PROJECT: Hideaway Hills Subdivision	ENT: Fox Bothschild
Western -EGI	LOC: 6891 W. Eletwood Drive Drill Bit: 4 7 Drag Bit & PDC Bit > 20	PROJ. NO.: 21-1008  GND EL (FT):
T T		TD (FT): 81'
HANDKER: NA		
SAMPLER: NA WEATHER: 60 Degrees F. Clo	GWT W.D.: NA DATE: June 21, 202	LOGGED BY: CRG DRAWN BY: CRG
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COMMENTS:	F3 1 1	DELIVE CIMEN CLAYSTONE

X		PROJECT: F	NO.: 23-013 conf Ideaway Hills Sub	d CLIENT: For Rothschild
WESTERN-	EGI		W. Elmwood Drive	
×;×			Drag Bit & PDC B	
HANCKER: NA		DROP: NA	WEIGHT: N/	A TD (FT): 81'
AMPLER: NA			GWT W.D.: N	A LOGGED BY: CRG
WEATHER: 60 Degre	es F. Cloud	ly .	DATE: June 2	21, 2023 DRAWN BY CRG
E S NOTES	MSPT, IN.O MOISTUI	RE, N. S. A. Hill:	NO. GRANTE	LITHOLOGICAL DESCRIPTION
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WESTERN-EGI	200	leaway Hills Subdivision Elmwood Drive	PROJ. NO.: 21-1008
XUX		Oneg Bis & PDC Bit >20'	GND EL (FT):
LANGGER: NA	DROP: NA	WEIGHT: N/A	TD (FT): 81'
AMPLER: NA	DAOL: 144	GWT W.D.: NA	LOGGED BY: CRG
WEATHER: 60 Degrees F, C	ondy	DATE: June 21, 2023	DRAWN BY: CRG
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COMMENTS:			

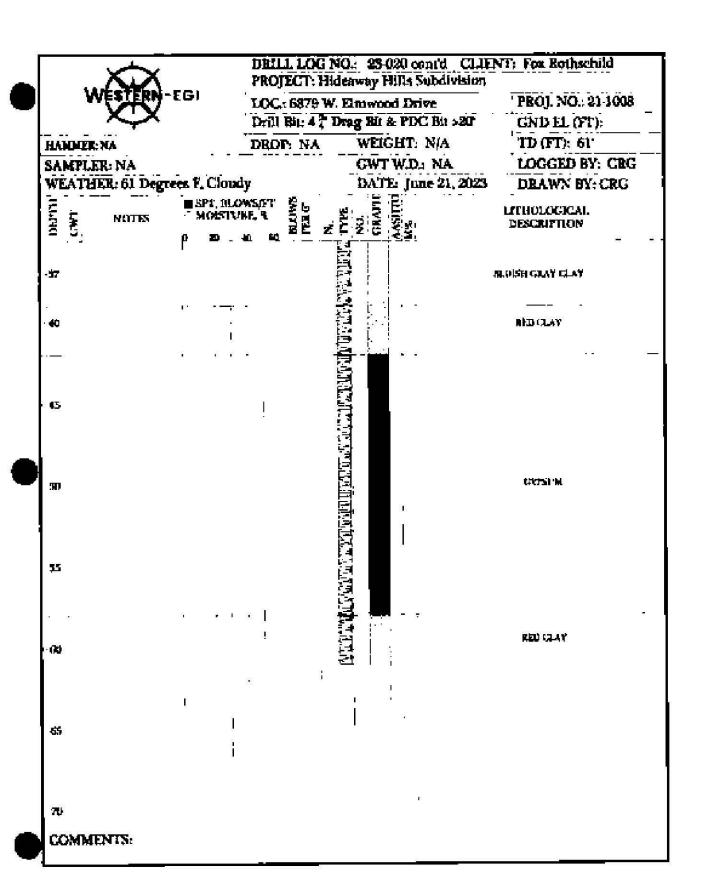
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X	×	PROJECT: H	NO.: 25-014 contd (dideaway Hills Subdivis	CLIENT: Fox Bothschild
MESTER	N-EGI	LOC: 6891 V	V. Elmwood Drive	PROJ. NO.: 21-1008
× ;	K	Drill Bit: 4 3	Drag Bit & PDC Bit >2	GND EL (FT):
ANOMER: NA	8.5	DROP: NA	WEIGHT: N/A	TD (FT): 61'
AMPLER: NA			GWT W.D.: NA	LOGGED BY: CRG
EATHER: 60 D	egrees F, Clou	dy	DATE: June 21, 2	
E NOTE	' ■ SP4, BL	OWS/FT SE	GRAIN AASICTO	LITUOLOGICAL DESCRIPITON
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OMMENTS:				

WESTERN	- K C 1	74. T <u>AL</u>	esway Hills Subdivision	(1997) N. ANAMAN ANAMA (1997)
ANESTERN	-601		Elmwood Drive	PROJ. NO.: 21-1008
~~~		Drill Pit: 4 T D	rag Blt & PEXC Bit >20"	GND EL (FT):
AMMER: NA		DROP: NA	WEIGHT: N/A	TD (FT): 61'
ampler; na			GWT W.D.: NA	LOGGED BY: CRG
VEATHER: 60 Deg	rees F, Cloud		DATE: June 21, 2023	DRAWN BY: CBG
Notes	■ SPU, BLC MOISTU	MANEL SO	CHAPIL CHAPIL MASSITIU MAS	THEOTOGICAT
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·		-1.		MED CLAY
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L.P.				
OMMENTS:				

<b>X</b>	PROTECT: 1	NO.: 25-015 cont'd CLIE Ildeaway Hills Subdivision	NT: Faz Bothschild
WESTERN-	LOC. 5891	W. Elmwood Drive	PROJ. NO.: 21-1008
X÷X	Drill Bit: 4	Drag Rit & PDC Bit >20	GND EL (FT):
AMORENA	DROP: NA		TD (FT): 61'
AMPLEB: NA		GWT W.D.: NA	LOGGED BY: CRG
VEATHER: 60 Degre		DATE: June 21, 2023	DRAWN BY: CRG
S NOTES	MOISTINE, S.	NO.	LITTIOLOGICAL DESCRIPTION
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COMMENTS:			

LOC: 6879 W. Eimwood Drive Drill Bill: 4 ? Drug Bik & FDC Bit 5207  GND EL (FT): TD (FT): 617  AMPIER: NA WEATHER: 61 Degrees F, Cloudy BRIT, ILLOWAFT MOSSTURE, 9 BRIT, ILLOWAFT BRIT, IL	XX	10 10-400	DRILL LO	G NO.: 25-1280 CLII Hideaway Hilk Subdivision	ENT: For Bothschild
DROP: NA WEICHT: N/A TD (FT): 61  AMPLER: NA LOGGED BY: CRG WEATHER: 61 Degrees F. Cloudy  BY: CRG DATE: June 21, 2023  DRAWN BY: CRG DRAWN BY: CRG LITHIOLOGICAL DESCRIPTION  15  16  17  18  19  19  10  10  10  10  10  10  10  10	WESTERN.	-EGI			
AMPTER: NA WEATHER: 61 Degrees F. Cloudy  BYT. ILLOWNST  MOSSTURE, 9  BYT. ILLOWNST  LITHOLOGICAL  DESCRIPTION  BATTE: Jone 21, 2023  LITHOLOG	X		Drill Bit: 4	* Drug Bit & PDC Bit >20	GND EL (FT):
WEATHER: 61 Degrees F. Cloudy  BATE June 21, 2023  DRAWN BY: CRG  ST. BLOWST BY CRG  LITHOLOGICAL DESCRIPTION  LALVE UNDER CLAY	HAMMER: NA	•	DROP: NA	WEIGHT: N/A	TD (FT): 61'
MONTES MO	SAMPLER: NA			GWT W.D., NA	LOGGED BY: CRG
10 ISANYE MRELMI CLAY  10 ISANYE MRELMI CLAY  25 ISANYE MRELMI CLAY  25 ISANYE MRELMI CLAY	WEATHER: 61 Degr	ees F. Cloud			DRAWN BY: CRG
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165 Y	ER: NA			131	BU)	r NA		TESTICAL COLUMN	Service Control Control	T: N/A		TD (FT): 52
WAR GRANES	LER NA		4	<b>1</b> 5.497						D.: NA		LOCGED BY: CRG
	THER: 61 Degree			300			1 1		1903	lane 21, 2023		DRAWN BY: CRG
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	INCREASED MORSTURE AT ABBUMI) 22				+		THE STANSON SERVICES				- 6 - 6	HEUSSICLAY
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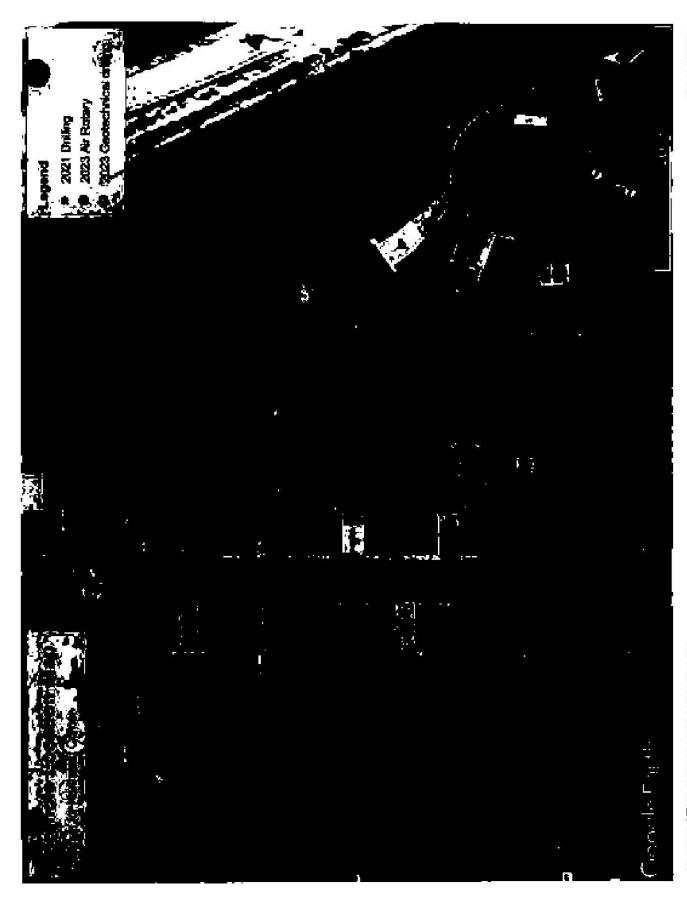
CONFIDENTIAL BUBLISCY TO PROTECTIVE ORDER

## APPENDIX C

**BORE HOLE MAP** 



- APPENDIX 460 -



Filed on: 07/12/2024 Meade County, South Dakota 46CtV20-000295  $- APPENDIX\ 461-$ 

## APPENDIX D

## LAB TESTING RESULTS

PO Bax 1478
Rock Springs, WY 82902
307-362-5180
www.westernegi.com



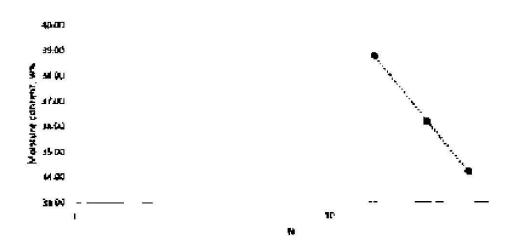
OUENT:	Fox	TECH NICIAN:	MPR
JOB MUMBER:	21-1008	TEST METHOD.	ASTM 04318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan DC
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE:	7/19/2023	SOURCE:	23-1008 10-11.5 R
SAMPLE DESCRIPTION:	Sandy Silty Clay, AAS	HTO = A-5	

750	Liquid Limit								
Can Mo.	27	C	28						
Mass of can	20.76	20.75	20.64						
Can + Wet	34.57	34.30	34.88						
Can + dry	31,03	30.70	30.90						
SMI	34.23	35 181	38.79						
Blows N	35	24	15						
Blows Required	25-35	ZO-30	15-25						

Plastic Limit			
2	79		
20.88	20.96		
27.90	33.97		
26,94	29.88		
15.84	16.70		

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(1\Projects\2021 Projects\21-1008 Hideaway Hills\(ab Testing\Attebergs 2023\Classification 001 23-1006 10-11_5ft_sisa

PO Box 1478 Rock Springs, WV 82902 307-362-5180 www.wisternegi.com



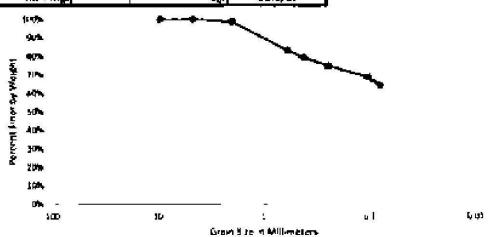
CLIENT:	Fost	TECHNICIAN:	KC .
JOB NUMBER.	21-1006	TEST METHOD:	ASTM C117, ASTM C136
PROJECT;	HideaWay Hills	SAMPLE NUMBER:	Class QQI
SAMPLE DATE:	8/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE:	20 C C C C C C C C C C C C C C C C C C C	SOURCE	23-1008 10-13,5R
DESCRIPTION:	Sandy Sifty Clay, AASHT() = A-6		

Pan = 653.7

Sieve Number	Sieve Stre (mm)	Weight Retained • Pan (gm)	Weight Kelained (gm)	Percent Retained	Persont Finer
0.375	9.59	653.7	φ,o	0%	160%
*	4.75	653.7	Q.D	D94	100%
10	3	557.A	3.7	1%	99%
30	0.6	DE <del>80</del>	<b>39.3</b>	17X	Ban
40	0.425	563.4	9.7	21%	79%
60	0.25	565.5	11.0	25%	75%
140	0,106	568.7	15.0	31%	69%
200	0.08	665.3	11.6	36%	64%
Parr		656.3	165.7	100%	0%

Total 256.3

Uniformity Co	sefficient, Pe	rcent Moisture, an	d Minus Loct	Weshing	
Initial Mass.	255.4	M Moisture:	ADIA/OF	initial Mass	256.4
Final Mass	256.3	010:	, , , , , , , , , , , , , , , , , , , ,	Mass of Pan + Soil (8)	648.95
% Mass Lost	0.0%	030:		Mass of Pan + Soil (A)	486,39
Tim:		(160)		Mass Passing 200	162.6
Tin + M _p .	R.	€.:[	#DIA/Q)		
Tim + Massi		C.i	#0 V/0		



Reviewed by:	Opte:	
	17.00	201.7

Date Created: 10/3/16

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

Date Revised: 2/11/21



CUENT:	Ferra	TECHNICIAN:	MPE
JOB NUMBER:	11400.00430		A3TM 84316-10
	Hideaway Hills	SAMPLE NUMBER:	Pan A'
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE:	7/20/2023	SOLINUTE:	23-1009 25-26.5h
SAMPLE	Light Red Silty Send,	Lean day with sand, AASH	NO = A-7-6
DESCRIPTION:	300.5		

Mould Design

Can No. Mass of can Can + wet Can - dry KAI Blows N

Blows Required

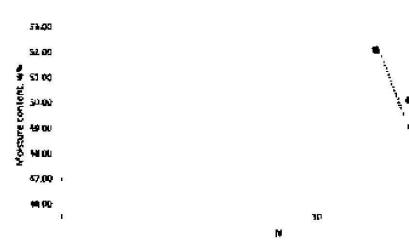
State of the State of			
19	ML	2	
21.08	20.51	20.88	
<b>35.43</b>	35.10	37.93	
30,85	30.23	32.09	1
45.73	50.10	52.10	
26	23	17	
25-35	20-30	15-25	

Plan		MIR.
-	_	

C	28
20.91	20.70
31.85	29.46
29,92	27,91
21.42	21.50

π=	48
PI o	27

No.	
Crassification	L CL



Q:\Projects\2021 Projects\21-1008 Hidenway Hills\(ab Testing\Attebergs 2023\(Classification 007 23-1009 25-26.5ft.idsx

CONFIDENTIAL BUBLIEGT TO PROTECTIVE ORDER

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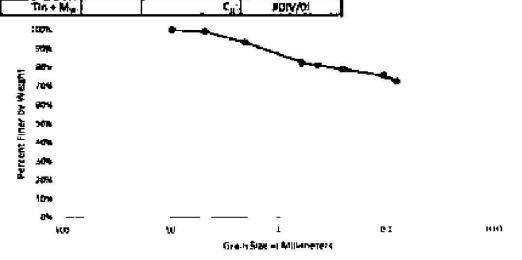
CLIENT:	Fayı	JECHNICIAN:	KCP .
JOB NUMBER:	21-1008	TEST METHOD:	ASTM C117, ASTM C136
	Hideoway Hills	SAMPLE NUMBER:	Class 002 Pan M
SAMPLE DATE:	6/21/2023	SAMPLED BY:	
TEST DATE:			25-1009 25-26-5 <del>A</del>
SAMPLE	Lean clay with sand, AASHTO =	A-7-6	
DESCRIPTION:			

Pan = 651.7

Seve Number	Sieve Size (mm)	Weight Retained + Pan (gm)	Weight Retained (pm)	Percent Retained	Percent Finer
0,375	9,53	653.7	0,0	0%	100%
4	4.75	655.4	2.7	1%	99%
1D	2	671.0	17.3	7%	93%
30	0.6	686.0	32.3	17%	83%
40	0.425	659.0	53	19%	81%
60	0.25	659.3	5.6	21%	79%
140	0.106	664.0	10,3	24%	76%
200	0.08	563.G	9.3	17%	73%
Pan	K.	657.0	217/5	100%	9%

Total 300.3

Uniformity Co	sefficient, Pr	ercent Molsture, sn	d Mess Lost	Washing	
Initial Mesoc	301.2	% Mokture:	#DIV/OI	Mittel Mass	307.5
Final Masa:	300.3	010:		Mass of Pan + Soli (B)	770.54
% Mans Lort	0.3%	090:		Mass of Pan + Soil (A)	506.62
Tin:		<b>960.</b>	*	Mass Passing 200	234.3
Tin + Mg	69/2	C _E	#ON/YO		
714 4 14			amazahi	<del>-</del> 1	



Date Crested: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

. H41_0009866 PO 8ox 1478 Rock Springs, WY 82902 307-362-\$180 www.westernegi.com



CLIENT:	Fou	TECHNICIAN:	100
HOR NUMBER:	21-1008	TEST METHOD:	A5TM D4318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan red
SAMPLE DATE:	6/19/2023	SAMPLED BY:	CRG/BOL
TÉST DAYÉ:	7/70/2023	SOURCE:	23-1010 1-7.5
SAMPLE DESCRIPTION:		Lean day with sand, AASH	Π'Ω = <b>A</b> ·6

Uquid (Imit

Can No.
Mass of can
Can + Well
Can + dry
*M
Blows N

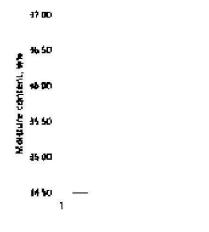
Blows Required

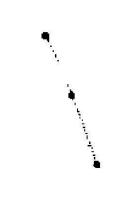
	The state of the s					
29	18	13				
20,97	20,77	20.79				
31.25	31.41	37.82	\$20			
28.60	28,61	29.60				
34.73	35,71	36.55				
30	24	L9				
25-35	20-30	15-25				

patientis frank			
27	19		
20,78	20.52		
42.48	42.02		
38.84	38.24		
2D.16	21.45		

U=	36
Pla	15

in the second se	DII
Manage malan	er
Miller William	





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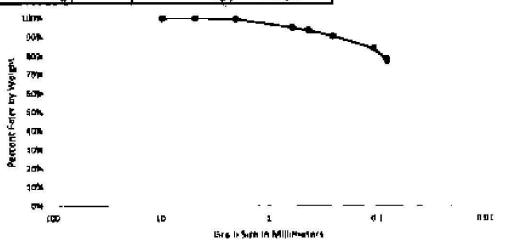
CLIENT:	Fate	TECHNICIAN:	JOP
JOB NUMBER:	21-1 <b>008</b>	TEST METHOD:	ASTM C117, ASTM C136
PROJECT:	Hidesway Hills	SAMPLE NUMBER:	Class 003 Pan E
SAMPLE DATE:	6/21/2023	SAMPLED BY:	
TEST DATE:		SOURCE	23-1010 1-2.5
SAMPLE	Less clay with sand, AA	SHTQ = A-6	
OESCRIPTION:			

Pan = 553.7

Sieve Number	Sieve Sice (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Parcent Rher
0.375	9.53	652.7	Ċ.D	0%	100%
4	4,75	653.7	0.0	D%	100%
10	1	655.2	1.5	0%	100%
30	0.6	565. I	11.1	5%	95%
40	0.425	654.6	4.5	6%	94%
60	0,25	662.4	8.7	9%	9356
140	0.106	573.7	19.9	16%	84%
200	0,08	672.7	19,0	22%	78%
Pan	3	660.0	233.3	100%	0%

Total 300.4

Uniformity C	oefficient, Pr	rcent Moisture, en	d Mass Lost	] Washing	
Initial Mass:	301.4	% Molsture:	#DIV/0!	initial Mass	301,4
Firmi Mass:	300.4	Dto:	•	Mass of Pan + Sod (8)	713.75
% Mass Lost:	0.3%	D30:	31	Mass of Pan - Soil (A)	485.8
Tin:		060:		Macs Passing 200	227.0
Tin + Mp:	2, (344)	C _t :	#DIV/01		
Tin + Max		C _i :	#DIV/01	7	



Date Created: 20/3/36 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised; 2/11/21

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CLIENT	Fox	TECHNICIAN:	JCP
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan F
SAMPLE DATE:	6/19/2023	SAMPLEO BY:	CRG/BDL
TEST QATE;	7/20/2023	SOURCE.	23-1010 5-5-5
SAMPLE DESCRIPTION:	Red sendy (san clay,	AASHTO = A-6	

Liquid Limit

Con No. Mass of can Con + Wet Con + dry SMI

Blows N

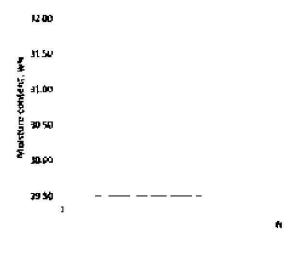
Blows Required

MA 16 20.84 20.90 20.76 32.87 33.4B 33,36 30.59 30.45 29.95 29.54 30,47 31,77 34 29 20 25-35 20-30 15-25

Pleasaic Limit		
15	1	
20.75	20.88	
37.57	39.66	
35.14	36.67	
19.67	18.94	

50		-
4=	31	3
Pi =	12	2
Accessed to the control of the contr	2000000	

CL	
	CL





Q/\Projects\2021 Projects\21-1006 Hideavay HRb\Lab Texting\Artichergs 2023\Classification 004 23-1010 5-6.5.xbs

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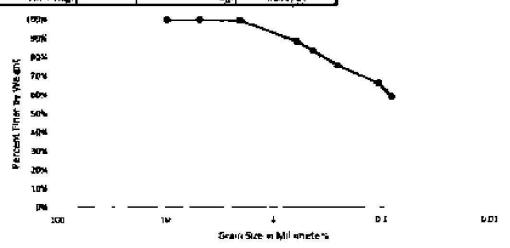


OUENT:	Fox	TEQ-WICLAN:	JCF_
JOB NUMBER:	21-1008	TEST METHOD:	aštm c117, astm c136
PROJECT:	Michaeleth Hills	SAMPLE NUMBER:	Clara 004
SAMPLE DATE:	5/21/2023	SAMPLED SY:	
TEST DATE:			23-1010 5-6.5
SAMPLE DESCRIPTION:	Red Sandy loan clay, AA	SHTO = A-6	

Pan = 653.7

Sieve Klumber	Słaye Size (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Percent Films
0.375	9.53	663.7	ņ.a	0%	1,00%
4	4.75	653.7	0.0	07%	100%
1D	2	654.8	1.1	<b>0%</b>	100%
30	07-6	687.6	34.1	12%	Ba%.
40	4.47.5	668.9	15.2	17%	83%
	0.25	677.4	21.7	24%	76%
140	0,106	682,0	28.3	34%	6636
200	0.06	675.4	Zi.7	41%	59%
Pan		669.4	177.7	JOCK	0%
		Total	301.a		

Uniformity Coefficient, Percent Moisture, and Mass Lost Washing initial Mass: 301.8 % Moisture: #DIV/01 inkla Mass 302.5 Mass of Pan + Soil (B) 722.48 Firm Mass: 301.8 1710 0.3% 560,55 % Mass Lost; D30; Mass of Pen + Soft [A] Mass Passing 200 161.9 fje; DBO: Tim + Mg: #DM/OI Tin + Mai: #DIV/OL



Date Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

Data Revised: 3/15/21

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CLIENT:	Fox	TECHNICIAN:	JCP
JOR NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan A
SAMPLE DATE:	6/19/2023	SAMPLED BY	CRG/BOL
TEST DATE:	7/20/2023	SOURCE	23-1019 5-10.5 combo
SAMPLE DESCRIPTION:	Sandy electic oit, AAS	HTO ≠ A-7-5	

Licensed Liberals

Can No. Mass of can Can + wet Çan + dry XIII

Blows M

Blows Required

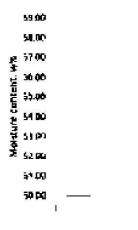
	Digital new	14.	
B1	3	H	
20.81	20.62	21.05	100
32.58	33.62	35.04	
28.60	29.05	29.50	
51 09	55.53	58.08	
30	26	24	- 10
25-35	20-30	15-25	

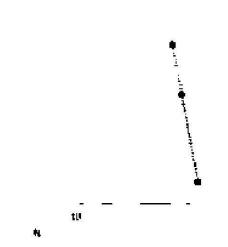
Plastic Limit

GG	4
20.74	20.56
37.65	39,97
33.75	35,57
29.98	29.31

11=	57
위 =	27

MH





Q:\Projects\2021 Projects\23-1008 Hideaway Hilk\Lab Testing\Attebergs 2023\Classification 005 23-1023 5-10.5 Combo.dss

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	<b>/-</b>	
CLIENT:	Fooi	TECHNICIAN: ICP & MPR
JOB NUMBER:	21-1008	TEST METHOD: ASTM C137, ASTM C136
PROJECT:	Hideaway Hills	SAMPLE NUMBER: Class 005 Pan 6
SAMPLE DATE:	6/21/2023	SAMPLED BY:
TEST DATE:		50URCE 23-1013 5-10.5 Combo
SAMPLE	Sundy elestra silt, AASH	TO = A-7-5
DESCRIPTION:	3	

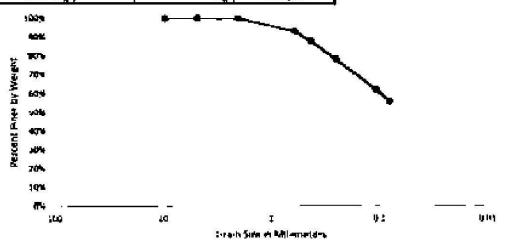
Pan = 653.7

Serve Number	Slove Size (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Parcent Fe
0.375	9.53	653.7	0.0	0%	100%
4	4,75	653.7	0.0	0%	100%
10	2	654,0	<b>D3</b>	0%	100%
30	0.6	674.5	20.8	7%	93%
40	0.425	669.5	15.2	17%	用数型

60 0.25 683.5 29.8 22% 76% 140 0.106 702.3 48.6 38% 62% 200 80.0 672.4 18.7 44% 56% 169.3 100% Pan 667.5 O'K

Total 303.2

Uniformity Coefficient, Percent Mobilize, and Mass Lost			Washing		
Initial Mass:	0.EGE	% Moisture:	JOIN/01	initial Mass	303.0
Final Mass:	303.2	010:	2.48	Mass of Pan + 5off (B)	783.74
% Mass Lost:	0.0%	030:		Mass of Pan + Soll (A)	628.3
Tin;	1	D60:		Mars Passing 200	155.4
Tin + Mp.		Çe:	#DIV/DI		
Tin + Man		G.	#DIV/OL	7	



Date Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

1

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CLIENT:	Fox	TECHNICIAM:	MPK
JOB NUMBER:	21-1008	TEST METHOD:	ASTM D4318-10
PROJECT:	Hideaway Hills	SAMPLE HUMBER:	D06 Pan B
SAMPLE DATE:	5/19/2023	SAMPLED BY:	CRG/BDL
TEST DATE:	7/21/2023	SOURCE:	23-1022 5-6.5
SAMPLE DESCRIPTION:		ny and gypsum fisites, Los	n Clay, AASHTO = A-7-6

Liquid Limit

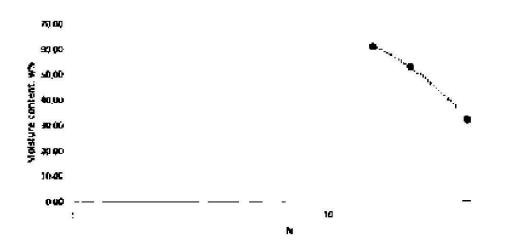
7 <u>—</u>			•
Can Mo.	ML	21	75
Mass of com	20.83	20.54	20.83
Can + Wet	36.76	34,55	37.46
Can + dry	32.88	29.80	31.14
X	32.20	53.06	<del>5</del> 1.30
Blows N	35	21	15
Blown Resulted	25-35	20-30	15.75

Plastic Limit X5 24 20.78 20.56 31.19

PARCE.			27.70	and the	21.12
dry	32.8E	29.80	31.14	28.21	28.95
	32.20	53.06	61.30	26.78	26.70
, N	35	21	15		^
الممواريسوق	35.34	th in	15.75		

11=	47	
PH	20	0.00

No.	
d-all-ation	a a



CE\Projects\2021 Projects\21-1008 Hideaway Hills\tab Testing\Altrebergs 2023\CLassification 006 21-1022 5-6.5.x4xx PO Box 1478 Rock Springs, WY 82907 307-362-5180 www.westernegi.com

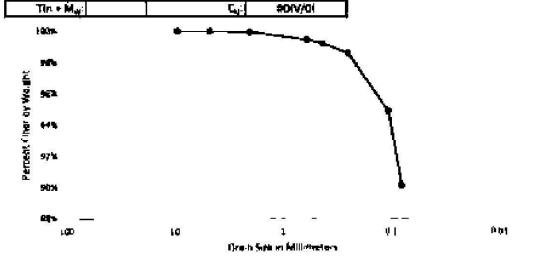


CUENT	Fota Rothchild	TECHNICIAN: MPR
JOS MUMBER	21-1008	TEST METHOD: ASTM C117, ASTM C136
PROJECT	Hidesway Hills	SAMPLE NUMBER: Class 006 Pan 8
SAMPLE DATE:	6/21/2023	SAMPLED BY:
TEST DATE:	anametric sale () /	50UNCE 23-1022 5-6.5
SAMPLE BESCRIPTION:	Lean clay, AASHTO = A-7	46

Pan = 651,7

Sieve Number	Steve Size (mm)	Weight Relained + Fen (gm)	Weight Retained (gm)	Percent Retained	Petrant Fee
0.375	9.53	653.7	0.0	0%	100%
4	4.75	653.7	0.0	0%	100%
10	1	653.9	0.1	0%	100%
30	0.6	E55.2	15	1%	99%
40	0.475	654.5	8.0	1%	99%
80	0.25	655.6	_L\$ _	1%	99%
140	0.106	665.2	5 <b>3.</b> 5	55	95%
200	0.08	668.3	14.5	10%	90%
Pan		660.5	276.7	100%	0%
3		Total	307.0		

Uniformity Coefficient, Percent Moisture, and Mass Lost Washing % Moleture: ADIV/01 Initial Mass 308.0 truttial Missa: 306.0 Final Mass: Mass of Pan + Soil (B) 699.07 307.0 010: Mass of Pan - Soil (A) 429.18 % Mass Cost: 0.3% 030: 259.9 Mess Passing 200 In: 060. #DIV/OI Tin + Ma Cci



Date Crepted: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Outs Reyard: 2/11/21

1

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CUENT:	Fox	TECHNICIAN:	1CP
JOS NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hidepusy Hills	SAMPLE NUMBER:	[A ¹
SAMPLE DATE:	6/19/2023	SAMPLEO BY:	CRG/BDL
TEST DATE:	7/21/2023	SOUNCE	29-1015 15-16.5
Sample	SAMPLE Tan sundy electic sitt, AASHTO = A-7-5		
DESCRIPTION:			

11

18

Uquid Umit

19

Can No. Mass of cars Cart + wet Cam + dry MM

Blanes N

20.86 21,05 20.62 31.69 3137 31,71 27.25 27.43 27.25 54.08 57,86 62.36 15 27 25-35 20-30 15-25

E

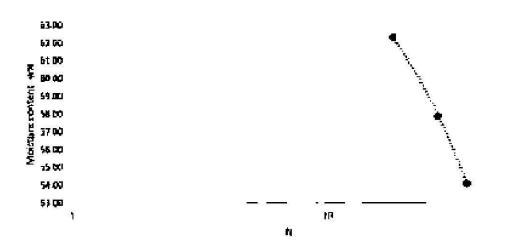
Plastik Limit

A	占
20.90	20.71
35.54	37.37
32.17	33.47
19,90	30.56

Biows Required

	40
L=	59
BI	30

in.	Ni
Classification	CH



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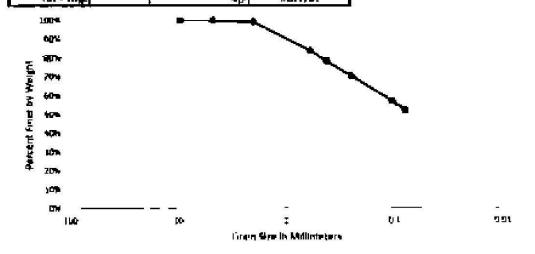


CUENT:	Fox	TECHNICIAN: MPR
JOB NUMBER:	21-1008	TEST METHOD: ASTM CL17, ASTM CL36
PROJECT:	Hideaway Hills	SAMPLE NUMBER: Class 507 Part C
SAMPLE CATE	6/21/2023	SAMPLED RY:
TEST OATE:		SOURCE 23-1015 15-16.5
SAMPLE	Tan sandy fet clay, AAS	rTG ± A-7-5
DESCRIPTION:		

Par = 653.7

Seve Number	Sieve Size (mm)	Weight Retained + Pan (gm)	Weight Reteined (gm)	Percent Retained	Percent Finer
0.575	9.53	653.7	0.0	17%	100%
ā	4.75	653.7	0.0	ON	100%
10	2	656.3	2.3	1%	99%
30	0.6	693.3	39.6	16%	54%
40	0.435	668.3	14.6	22%	78%
60	0.25	674.3	20,6	30%	70%
140	D. <b>106</b>	588.C	34,3	43%	57%
200	0.08	666.3	12.6	45%	52%
Pan		669.8	145.6	100%	0%
	T.O	Total	259.9		

Uniformity Coefficient, Percent Mointure, and Mass Lort Westing 259.9 abry/bi initial Mass. 259.9 Initial Mass: % Moisture: 259.9 010: Mass of Pan + Soil (8) 535.87 Fine! Mass: 0.0% 516.16 % Massa Loss: Dag: Mass of Pan + 5of (A) Mass Passing 200 119.7 DEU: Thm: Tm + Mo ADIV/O Cc: #DIV/D! Tin + Ma C



Onto Created: 10/3/16
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PROTECTIVE ORDER

Date Revised: 2/11/21

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CLIENT:	Fox	TÉCHMICIAN:	MPR
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan DC
SAMPLE DATE:	6/21/2023	SAMPLED BY:	eDL/CRG
TEST DATE:	7/24/2023	SOURCE:	23-1017 1'-6.5' comba
SAMPLE DESCRIPTION:	Ten sandy sitt with day,	, fet cley with send, AA3	SHT'O = A-7-6

Hauld Limit

Can No. Mass of can Can + wet Can + dry 96M

Blows N

Blows Required

24 19 21 20,60 20,67 20.58 32.37 31.91 33.13 27.50 27.72 27.75 7L60 69.86 75 03 34 28 15 15-25 25-35 20-30

Plastic Limit

75 A

20.91 20.90

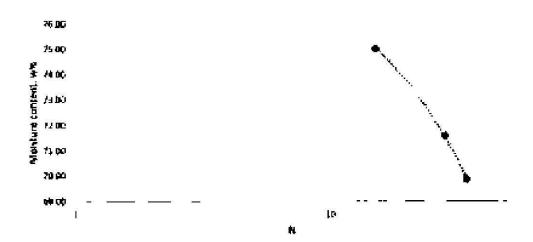
25.22 27.71

24.28 26.27

27.89 25.82

The state of the s	- 5
Π=	72
PI =	45

Cardification	I CH



Q:\Projects\2021 Projects\21-1008 Hideaway Hills\Lab Testing\Attebergs 2023\Classification 008 23-1017 1-6.5 R comboules

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CUENT:	Fore	TECHNICIAN:	MPA
JOS MUMBER:	21-1008	TEST METHOD:	ASTM 04318-30
PROJECT:	Hideaway	SAMPLE NUMBER:	Classification 09
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE:	7/25/2021	SOURCE:	23-1017 10-11.5 ft
SAMPLE DESCRIPTION:	Tan Silty Clay, Lean Clay with Send, AASHTO = A-5		

**Double Limit** 

Can No. Mass of can Can + wet Can + thy

MA Siches N

Blows Regulated

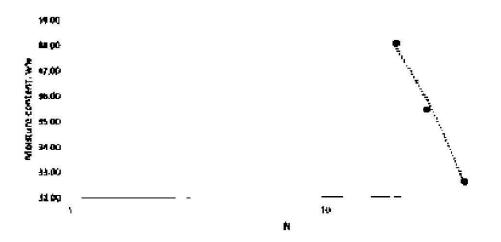
CARRY PROPERTY AND ASSESSED.				
27	MA	Ĺ		
20.76	20.89	20.87		
36.75	37.09	39.15		
32.82	32.85	34.11	2	
32.59	35.45	38.07	1	
35	25	19		
25-35	20-90	15-25	_	

Plastic Limit

1	ML
20.87	20.75
37.69	32.17
35.19	30.45
17,46	17.11

Ц.	36
<b>9</b> 1 =	19
13 134	E 2000

N	البسوا أ
Cawification	LL



Q:\Projects\2021 Projects\21-1008 Hidnaway HRIs\Lab Testing\Attabergs 2823\Classification 009 23-1017 10-11.5 ft....hz

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CLIENT:	For Rothchild	TECHNICIAN: MPR
JOB NUMBER:	21-1008	TEST METHOD: ASTM C137, ASTM C136
PROJECT	Hidesway	SAMPLE NUMBER: Class 009 Pan Z
SAMPLE DATE	6/21/2023	SAMPLED BY: CRS/BDL
TEST DATE:		SOURCE 23-1017 10-11.5 ft
DESCRIPTION:		ly with Sand, AASHTO = A-6

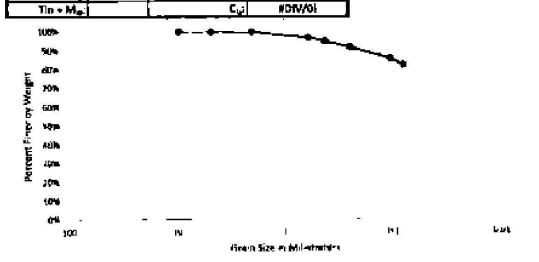
Page : 553.7

Seve Number	Sleve Size (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Ketained	Percent Fine
0.375	9.53	653.7	0.0	0%	100%
4	4,75	653.7	0,0	0%	100%
10	2	654.1	0.3	. 0%	100%
340	0,6	660.6	6.B	3%	97%
40	C AND COMPANY	657.7	4.0	5%	95%
60	0.25	650.8	7,0	8%	92%
140	0.106	566.9	13.2	14%	86%
700	0.08	643.5	7.\$	18%	82%
Pan		660.9	179.3	100%	096

Total

Uniformity Coefficient, Percent Moliture, and Mass Lost Washing MDHV/01 Initial Mass 219.1 W Molsture: Joinal Muse 219.1 O10: Mass of Pan + Soil (B) 598.51 Final Mess: 21R4 426.4 % Mass Lock: 0.3% 040. Mass of Pan - Soli (A) 1/21 Maris Passing 200 D60: Tin: Tim + Mig: #DIV/OL

218.4



Opte Created; 10/3/16

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

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CUENT:	Fo≃	TECHNICIAN:	MPR
HOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hideway	SAMPLE NUMBER:	F
SAMPLE DATE:	6/21/2023	SAMPLEO 8Y:	CRG/BOL
TEST DATE:	7/75/2023	SOURCE:	23-1014 15-15-5
SAMPLE DESCRIPTION:	Tun silty clay, Lean Clay, AASHTO = A-7-5		

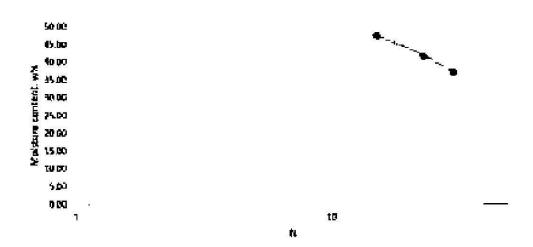
Uquid Umit

Can No. 21 19 Mass of can 21.10 21,07 20.83 34,77 33.46 Cart + well 35.45 Can + dry 31,06 31.22 **79.39** 37.25 41.67 47.55 MI Blows N 30 23 15 25-35 20-30 **Blaves Required** 15-25

Pleatic Limit		
Н	Ą	
21.07	20.90	
31.46	29.20	
29,49	27.66	
23.40	22.78	

ii ÷	41	
PI =	17	

A 100 Mars 100 At	l er
	2.00



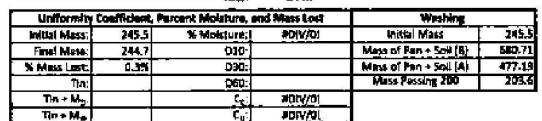
Q:\Projects\2021 Projects\21-1008 Hideaway Hills\Lab Testing\Attebergs 2023\Classification 010 23-1014 15-16.5 ft.atsa PO Box 1478 Rock Springs, WY 82902 307-362-5180 www.westernegi.com



No.			
CLIENT	Fox Rothchild	TECHNICIAN:	JCP
JOB MUMBER:	21-1008	TEST METHOD:	ASTM C117, ASTM C136
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Class D10
SAMPLE DATE:	6/71/2023	SAMPLED BY:	CRS/BDL
TEST DATE:			23-1014 15-16-5
SAMPLE	Tan siity slay, Lean Clay	, AASHTO = A-7-6	
DESCRIPTION:	5 32 58 3 B	<del></del>	

Pan = 651,7

Seve Number	Sieve 5ize (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Percent Finor
0.375	9.53	659.7	ΩΩ	ON.	100%
4	4.75	653.7	20	0%	100%
10	2	653.7	0.0	054	100%
30	0.6	657.5	3.8	2%	98%
40	0.425	637.5	1.7	3%	97%
60	0.25	661.5	7.8	6%	94%
140	0.106	667.5	13.6	12%	58%
200	0.08	662.5	E.S	15%	35%
Pan		657.0	206.9	100%	9%
		Total	244.7		





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. нн_0009701 PO Box 1478 Rock Springs, WY 82902 307-362-5180 www.westernegi.com



CUENT:	Fox	TECHNICIAN:	MPR
JOB NUMBER:	21-1008	TEST METHOD:	ASTM D4319-10
PROJECT:	Hideaway	SAMPLE NUMBER:	Calssification 011
SAMPLE DATE:		SAMPLED BY:	
TEST DATE:	7/25/2023	50URCE:	13-1001 1-2.5ft
	Reddish/brown sity AASHTO = A-4	day, fines classify as Ct., O	versit Soil - Clayey Sand (SC),

Can No. Mass of can Can + wet Can + dry SMA Blows N

Slows Required

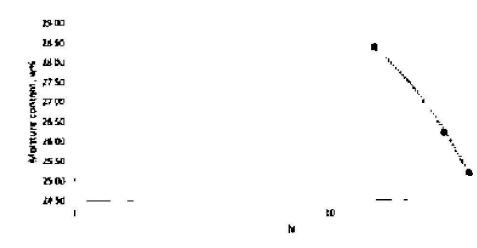
The second secon	tion .
XS ]	19
20.72	20.65
38.20	36,94
34.57	31.78
26.21	26,39
28	15
20-30	15-25
	20.72 38.20 34.57 26.21 28

**Liquid Limit** 

Plastic Limit				
埠	15			
21.02	25.84			
33.76	32.10			
11.90	30.43			
17,10	17.41			

- 4	44	
-	27	
	70	
		10

Classification	( <b>1</b>	CL
to worker for the risk to be true. With	5.0	Burne West



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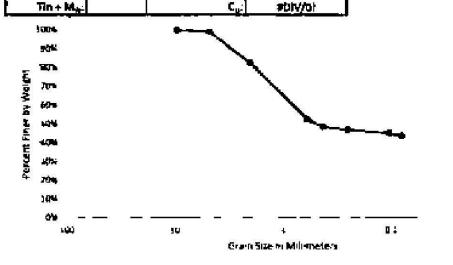
CLIENT	ftx	TECHNICIAN:	KOP .
JOB NUMBER:	21-1008	TEST METHOD:	ASTM C117, ASTM C196
PACHECT	Hideoway	SAMPLE NUMBER:	Class 011 Para M
SAMPLE DATE:	6/21/2023	SAMPLED BY	CRG/BDL
TEST DATE:			23-3001 1-2.5 ft
SAMPLE DESCRIPTION:	SC, Clayey Sand, AASHTO = A-4		

Pan = 653.7

Sleye Mamber	Slave Size (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Pergent Retained	Percent Fiber
0.375	9.53	653.7	0.0	0%	100%
4	4,75	656.5	7.8	1%	99%
10	T'i	694,7	41.0	18%	52%
30	0.6	727,3	79.5	47%	53%
40	D.475	664.8	11.1	57%	48%
60	0.25	657.6	3.9	53%	47%
140	0.106	658.0	43	55%	45%
500	0.08	657.5	3.8	57%	43%
Pain.		655.2	3D6.8	Look	034

Total 247.1

Uniformatry C	Uniformity Coefficient, Percent Moisture, and Mass Lost			Wealthing	
initial Mass.	24R.0	% Moleture:	#DIV/Dt	mittal Mass	248.0
Finel Mass:	247.1	D10		Mess of Pan + Soil (8)	667.67
% Mass Lord.	0.3%	D9D:		Mass of Pan + Soli (A)	563,33
Tha:		D&G.		Mass Passing 200	104.1
Tin + M _b :		C _e :	#DIV/OF	Ī	
71 14		10-1	and the date to	<b>—</b>	



Oute Created: 10/3/16 CONFIDENTIAL BUBLIEGT TO PROTECTIVE ORDER Date Roysed: 2/11/21

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CLIENT:	Fox	TECHNICIAN	MPR
IOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT;	Hideaway Hills	SAMPLE NUMBER:	Class 012
SAMPLE DATE:	6/23/2023	SAMPLED BY:	CRG/BOL
TEST DATE:	7/26/2023	50URCE.	23-1002 10-11.5°
SAMPLE DESCRIPTION:	Reddish day with silt, Lea	in Chiy, AASHTO = A-6	i

 أباليا	11 3	-	la i
		m	12.

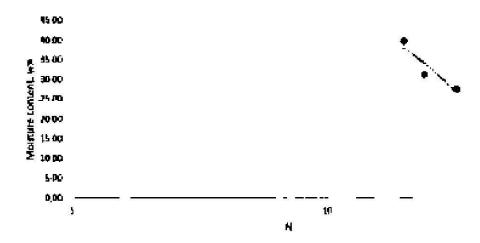
Can No.	帽	19	MA
Mass of can	21.21	20.73	20.93
Cars + West	38.24	33.91	34.76
Cars + dry	34.57	34.58	30,82
%M	27.47	31.26	39.84
Blows N	32	24	20
Alouer Baser Sand	75.75	70 20	1E 2E

Pleatic Limit

н	ንነ
21.10	20.79
34.64	34.90
37.61	32.72
17.54	1EL27

<u> </u>	31
<b>P</b> H =	15

Programme diller on their	2.7	1000		
Cassification	- 1	- 4	80 II	
And Market & Print 1	- 1			



Q:\Projects\2021 Projects\21-1888 Hadanway HRs\Lab Testing\Attabargs 2023\Classification 012 23-1002 10-11.5 ft also

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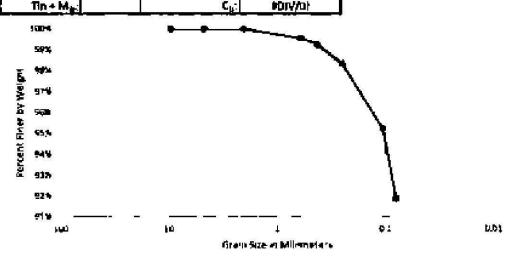
gel.	TECHNICIAN:	KP
1-1008	TEST METHOD:	ASTM C137, ASTM C136
ideaway Hills	SAMPLE NUMBER:	Class 017
/21/2013	SAMPLED BY:	CRG/BDL
	SOURCE	23-1002 10-11.5"
sen Clay, AASHTO = A-6		
<del>2 =</del> 2		
	1-1008 Udenmay Hills	1-1008 TEST METHOD: Identity Hills SAMPLE NUMBER- /21/2023 SAMPLED BY: SOURCE

Page = 653.7

Sieve Number	Steve Size (mm)	Weight Retained + Pan (gm)	Weight Retained	Parcent Retained	Percent Finer
0.373	9.53	653.7	0.0	0%	700%
4	4,75	653,7	O,D	0%	100%
10	2	653.0	0.0	0%	100%
_ 30	0.6	653.1	1.3	0%	100%
40	0.425	654.6	0.9	1%	99%
60	0.25	655,6	2.5	2%	93%
140	0.106	663.1	9,4	5%	95%
500		664.U	10.3	8%	92%
Pain		661.7	277.S	100%	0%

Total 302.3

Uniformity Co	reflicted, 9	ercent Molsture, an	d Mass Lost	Weshing	
fritial Mass.	303.3	% Moistage:	#DIV/DI	(nittal Mass	303.3
Final Mana:	302.3	Q10:	0.000	Mass of Pan + Soli (8)	695.81
% Mass Lock:	0.3%	D30:		Mass of Pan + Soft (A)	A26.33
Tkn:	***	D50:		Mass Passing 200	269.5
Tm + M _n :		C _c :	#DIV/OF		
The self		(F).	Africa (Jan.)	<b>–</b>	



Onte Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

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CLIENT:	Fox	TECHNICIAN:	MPR
JOB NUMBER;	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT;	Hidemory Hids	SAMPLE NUMBER:	Class 03.3
SAMPLE DATE:	6/19/2023	SAMPLED BY:	CRG/BDL
TEST DATE:	7/26/2023	SQUMCE:	23-1003 5-6.5
SAMPLE DESCRIPTION:	Lean Clay, AASHTO = A-5		

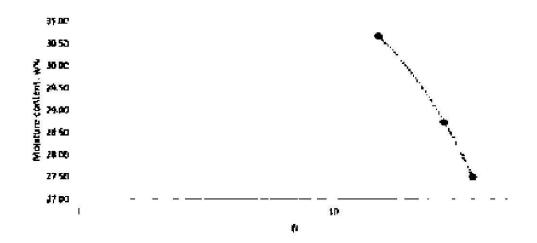
Liquid Limit

Can No.	18	E	13
Marus of can	20.94	20.85	20.88
Can + wet	36.20	37.25	36.13
Çaq + dıy	32.91	33,59	32.55
MM:	27.49	28.73	30.69
Brows N	35	27	15
Blows Required	25-35	20-30	35-25

Manstire Limmit		
Ī	ML	
20.95	20.73	
36.76	29.34	
34.24	28.04	
121.63	17.78	

红土	79
<b>é</b> 1 =	71

CL



Q:\Projects\2021 Projects\21-1006 | Udenwey Hills\Leh Testing\Attebergs 2023\Classification 013 23-3903 5-6.5,xisx

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No.			
CLIENT	Fox	TECHNICIAN;	MPR
JOB NUMBER:	21-1008	TEST METHOD:	ASTM C117, ASTM C136
PROJECT:	Hideoway	SAMPLE NUMBER:	Clam D13 Pan E
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRS/8DL
TEST DATE:		SOURCE	23-1003 5-6.5
SAMPLE	Lean Clay, AASHTO = A-6	<b>X</b> 2	
DESCRIPTION:			

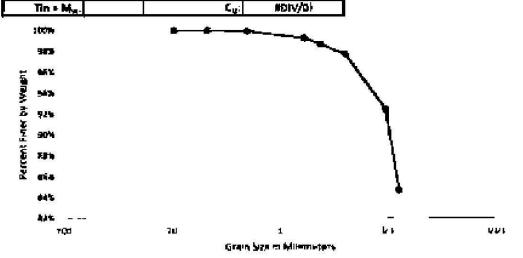
Pan = 653.7

Stave Number	Steve Size (mm)	Weight Retained + Pan (gm)	Weight Retained [gm]	Percent Retained	Percent Fine!
0,375	9.53	653.7	0.0	O)4:	100N
4	4.75	653.7	Φ0	O%	100%
10	2	653.9	0.2	0%	100%
30	0.6	655.6	1.9	1%	99%
40	0.425	655.3	1.5	1X	99%
60	0.25	\$55.6	19	2%	98%
140	0,106	669.1	15.4	874	92%
200	0.08	676.4	22.7	15%	85%
Pan		684,2	245.9	100%	0%

Total

Washing Uniformity Coefficient, Percent Moisture, and Mass Lost PDIV/OI initial Mass **1914** initial Mass: 291.6 % Moisture: 703.99 Final Mass: 290.5 010 Mass of Pan + Soil (B) 0.3% D30: Mass of Pan + Soil (A) 448.58 N Mass Lost Mana Passing 200 715.4 Trn: D60 The + Mg #DIV/Ot #DIV/DI

290.6



Cote Created; 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

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CLIENT:	Potes	TECHNICIÁN:	MPR
JOB NUMBER:	21-1008	TEST METHOD;	A5TM 04318-10
PROJECT:	Midsaway Mile	SAMPLE NUMBER:	Class 014 Pan A5
SAMPLE DATE:	6/19/2023	SAMPLED BY:	(CRG/BDL
TEST DATE:	7/25/2023	SOUNCE:	23-1004 Combo 5-6.5 + 10-11.5
Samplé	Reddish day with slit, Lean Clay, AASHTO = A-4		
DESCRIPTION:	5		

15-25

Liquid Limit 35 Can No. GG Mass of cars 20.75 20.83 20.84 37.25 Can " vret 37.11 39.72 Can + dry 33.50 33.36 35.29 MM 29.41 29.93 30.56 30 25 17 Blows N

20-30

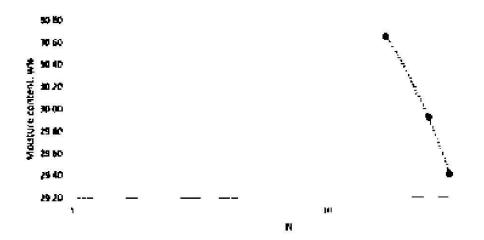
25-35

Plastic Umit 27 IS 20.87 20.75 31.44 30.15 29.60 28.51 71.08 21.13

<u>III.</u>	30
<b>門</b> =	9

Blows Required

gu arenicación	1



Ct/Projects\2021 Projects\21-1008 HideaWay (Hits\Lab Tenting\Atteborgs 2023\Classffication 0).4 23-1004 Combo 5-6.5 + 10-11.5.sks.

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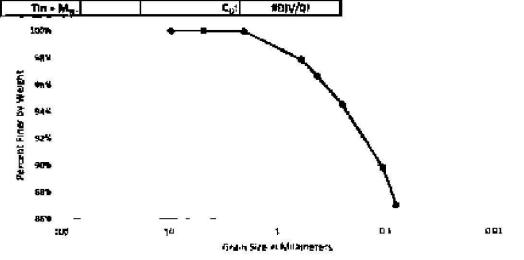
CLIENT	Fou Rothchild	TECHNICIAN:	MPR
JOB NUMBER:	21-1008	TEST METHOD:	ASTM C137, ASTM C136
PROJECT:	irideaway	SAMPLE NUMBER:	Class 014
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRS/80L
TEST DATE:		SOURCE	23-1004 Combo 5-5.5 & 10-11.5
SAMPLE	Leen Clay, AASHTO × A-4		
DESCRIPTION:			

Pan = 553.7

Sieve Number	34649 5426 (mm)	Weight Retained + Pan (gm)	Weight Retained (gm)	Percent Retained	Percent Finan
0.375	9.53	653.7	0.0	0%	106%
4	4.75	653.7	0.0	0%	100%
10	2	653.9	0.2	Q%L	3 00%
30	0,6	660.1	6,4	2%	98%
40	0.425	657.4	3.7	3%	97%
60	0.15	660.3	5.5	6%	94%
140	0.106	668.1	14.4	10%	90%
200	0.08	662.2	8.5	13%	87%
Pan		670.2	265.3	100%	0%

Total 905.1

Uniform by	Coulfictions,	Percent Molsture,	and Mass Loss	Washing	
Initial Mass:	305.7	% Mohture:	#01//01	(ritter Mass	105.7
Final Mass:	305.1	D10.		Mass of Pan + Soil (6)	725.5
% Marca Lost:	0.2%	D30.		Mass of Pan - Soft (A)	476.67
Tin:	1	D60:		Mass Passing 200	248.1
Tan + M _D		Ċ _e :	#BIV/DI		
			and a feet		



Date Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Oate Remed: 2/13/21

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CUENT:	Fox.	technician:	MPN
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	Pan B Clays 015
SAMPLE DATE:	6/19/7023	SAMPLED BY:	CRG/BDL
TEST OATE:	7/26/2023	SOURCE.	23-1005 1-2.5"
SAMPLE	Lean Clay with Sand, AASHTO = A-5		
DESCRIPTION:			

Liquid Limit

Can No. Mass of can Can 4 wet Can 4 dry

Can + Mer Can + dry 16M Blows N

Blooks Required

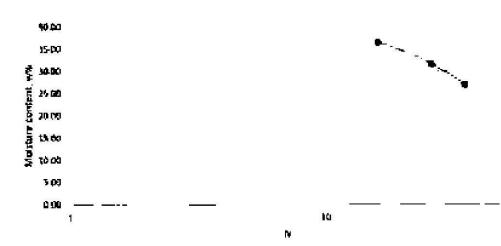
	odnin inus	1
BL	145	路
20.L1	20.76	20.86
34.20	37.20	34.51
31.35	33.25	30.65
27.04	31.63	35.54
35	26	16
25-35	20-30	15 75

Plantic Limit

<u> </u>	24	
20.82	2D.83	
32.76	31.55	
30.92	29.89	
18.12	18.32	

ſΓ≖	32
<b>P</b>  =	14

en en sur sus	
LI ASSIDICATION	<u>L</u>



C:\Projects\2021 Projects\21-3008 Hideaway Hills\Lab Testing\Atteborgs 2023\(C)pssfication 015 23-1005 1-2.5.kbs

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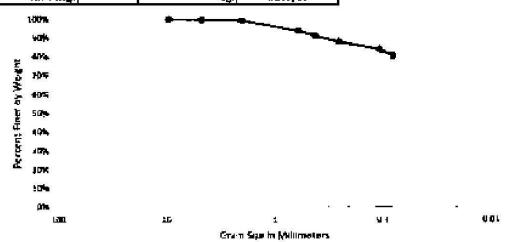
-	
Fox Rothstilld	TECHNICIAN: MPR
21-1008	TEST METHOD: ASTM C117, ASTM C136
Нібецияу	SAMPLE NUMBER: Cleus 015 Pen A'
6/21/2025	SAMPLED BY: CRG/BOL
	SOURCE 23-1005 1-2.5
Loan Clay with Sand, A	ASHTC = A-6
	Fox Rothchild 21-1008 Hideaway 6/21/2025 Loan Clay with Sand, A

Pan = 657.9

Sieve Number	Sjevë Size (mm)	Weight Retained + Fan (gm)	Weight Retained (gm)	Percent Retained	Fercent Finer
0.375	9.53	657.9	ĢΩ	0%	100%
4	4.75	658.5	Q.7	OW.	100%
10	7	668.8	0.9	1%	99%
30	0.6	569.4	L1.5	5%	94%
40	0.425	<del>5</del> 63.1	5.2	2%	91%
60	0.25	665.1	7.3	12%	88%
140	g 70e	565.4	8.5	16%	84%
200	0.08	565.5	7.6	20%	80%
Pan		551.9	172.1	100%	0%

Total 213,9

Uniformity Coefficient, Percent Moisture, and Mass Lost				Washing	
Initial Mass:	213,9	% Moleture;	#OIV/O!	Initial Mass	213,9
Fixel Mans:	213.9	D19:		Maus of Pan + Sori (B)	618.73
% Mass Lost:	0.0%	D30;		Mass of Pan + Still (A)	450.57
Tin:		D60:		Mass Passing 200	168.7
Tin + Mail		C _C	#DIV/Q1		
Tim + M _m :		<b>G</b> .:	(FDIV/0)	20	



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CLIENT:	Fox	TECHNICIAN:	MPR		
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04316-10		
PROJECT:	Hidesony Hills	SAMPLE NUMBER:	Pan XX Class 015		
SAMPLE DATE:	6/19/2023	SAMPLED BY:	CRG/NOL		
TEST DATE:	7/26/2023	SOURCE:	23-1005 10-11.5°		
SAMPLE	Reddish day with silt, Lean Clay, AASHTO = A-7-5				
DESCRIPTION:	Ì				

Uquid Umit

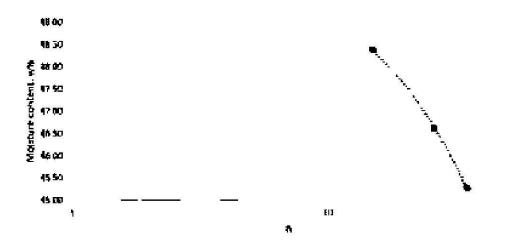
_		40 FINNEY 6 US	
Can No.	25	7	A
Mass of can	20.67	21.15	20.93
Can t wet	31.10	33.95	31.97
Can + dry	27.85	29.88	28,37
%M °	45.26	45.62	48.39
Blows N	35	26	15
Bloves Required	<b>75-35</b>	20 30	15 25

Plastic Limit

7	29
20.91	20.98
34.85	34.39
32.24	31.70
23.06	25. <b>d</b> 9

ll =	47
<b>ጀ</b> ባ <del>=</del>	23

Classification	L.L.



Q:\Projects\2021 Projects\71-1008 (4ideaway )(4is\Lab Testing\Attebergs 2023\Classification 016 23-1005 10-11-5'-aha PG Box 1478 Rock Springs, WY 82902 307-367-5180



with with state and court

ĆUEŅT:	Fou flothchild	TECHNICIAN:	MPR
TOB HTIMBEST	21-1008	TEST METHOD:	ASTM C117, ASTM C130
PROJECT:	Hideavery	SAMPLE NUMBER	
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE			23-1005 1p-11-5
SAMPLE DESCRIPTION:	Lean Clay, AASHTO = A-7-6		

Pan = 657.9

Sieve Number	Sieve Size (mm)	Weight Retained + Pan (gm)	Weight Hetained (gm)	Percent Retained	Percent Finer
0.375	9.53	657.9	0.0	0%	100%
4	4,75	658,1	0,3	O%.	100%
10	2	658.5	0.6	Q%	100W
30	0,6	659,2	13	1%	99%
45	Q A25	658.3	0.4	194	99X
67	0.25	658.6	0.7	1%	29%
140	0.106	661.2	3.3	236	98%
200	90.0	662,9	5.0	31%	97%
Fan		658.9	419.1	100%	0%

Total 430.E

Uniformity Co	refficient, Po	ercent Moleture, an	d Mass Lost	Washing	
Initial Mass:	431.1	% Molsture:	#DIV/DI	(nittal Mass	431.1
Final Mass:	430.8	010-		Mass of Pan + Sot (8)	807.04
X Mass Lost:	0.1%	O30:		Mats of Pan + Soft (A)	3889
Πn:		060:		Mass Passing 200	418.1
Tin + Ma-	Ī	<u>در:</u> ]	#DIV/OI		3) 18 o
Tin + Mai	38 3.	C.	#DIV/01	·	



Date Crested: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Date Revised: 2/11/21

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CLIENT:	Fox	TECHNICIAN:	JCP
IOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10
PROJECT:	Michaelyny Mills	SAMPLE NUMBER:	Class 017 Pan 2
SAMPLE DATE:	6/19/2023	SAMPLED BY:	<b>äL</b> ₂
TEST DATE:	7/27/2023	SQUIRCE:	23-1005 15-16 <i>-</i> 5'
SAMPLE	light redictors Lean O	av, AASHTO = A-7-5	
DESCRIPTION:			

Liquid Limit

Çan Na.
Mass of can
Can + wet
Can + dry
SAM

Blows N

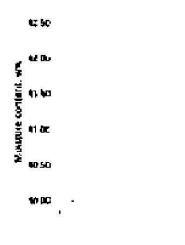
Blows Required

ML BL 20.73 ZD-83 20.75 34.75 34.73 33.49 30.40 30,65 29.70 40.23 41.21 42.25 30 25 20 <del>25-3</del>5 20-30 15-25

Plastic Umit		
X9	18_	
21.20	20.87	
37.20	37.63	
34.03	34.24	
24.71	25.36	

u =	41
PIT	16

	100	
Classification		CL
PROF. SHAPE WITH UNGS AUSSI		No. 16. 20.





C:\Projects\2021 Projects\21-1008 Hidesway Hills\Lab Tenting\Attebergs 2023\Classification 01.7 23-1005 15-16.5.dsx

N

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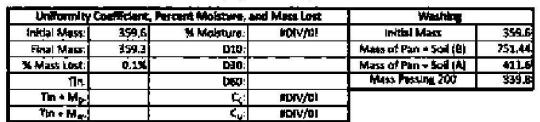
www.westarnegr.com

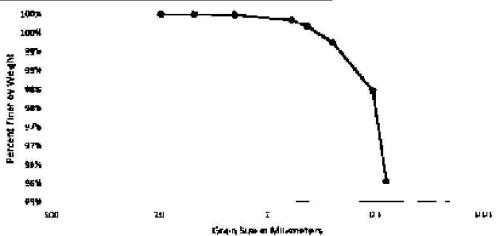


			200 P 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
CLIENT	Fox Rothchild	TECHNICIAN).	MPA.
JOB NUMBER:	21-1006	TEST METHOD:	ASTM C117, ASTM C136
PROJECT	Hideaway	SAMPLE NUMBER:	Class 017 Pan MX
SAMPLE DATE:	6/21/2029	SAMPLED BY:	DRG/8DL
TEST DATE:		SOURCE	23-1005 15-16.5
SAMPLE	Lean Clay, AASHTO = A-7-5		
DESCRIPTION:			

Pan 4 657.9

Seve Mumber	Steve Size (mm)	Yeight Retained • Pen (gm)	Weight Retained (gm)	Percent Retained	Percent Finer
0.375	9.53	657.9	CO.	0%	100%
4	4,75	457.9	C.0	U%.	100%
10	2	65B.0	0,1	9%	100%
30	Q.G.	558.4	0.5	054	100%
40	0.425	<b>458.5</b>	0.5	0%	100%
60	0.25	659.4	1,5	154	99%
140	0106	552.5	4,7	2%	98%
200	0.04	556.6	8.7	4%	96%
Pan		561.4	343.3	100%	CK
		Total	359.3		





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CLIENT:	Fan	TECHNIÇIAN:	hcs.
JOB NUMBER:	21-1008	TEST METHOD:	ASTM D4338-10
PROJECT:	Hideaway Hillis	SAMPLE NUMBER:	Ota Pan OC
AMPLE DATE:	6/19/1023	SAMPLEO BY:	CR6/ebt
TEST DATE:	7/27/2023	SCUNCE	23-1005 20-21,5°
SAMPLE DESCRIPTION:		Rakes, Lean Clay, AASHT	O + A-5

Liquid Limit

Can No. Mass of can Can + wet Can + dry 16M

Blows N

Blows Required

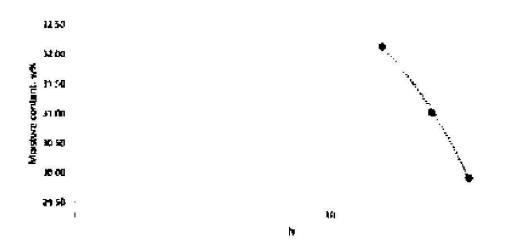
13 15 3 20.77 21.05 20.82 32.76 17.97 32.5B 30.00 30.15 29.72 29,90 32.13 31.02 35 25 16 25-35 20-30 15-25

THERE UMA		
66	27	
20.76	20.00	
43.46	42.39	
39,65	38.83	
28 17	19 69	

Of --- 12- 4 --- 15-

<b>II</b> =	31
PIE	11

Classification	a



"Use linear or logarithmic transline equation with x = 25 to calculate liquid limit"

Q:\Projects\2023 Projects\21-1008 Hideaway Hills\Lab Testing\Alteborgs 2023\Classification 018 23-1005 20-21.5.4km

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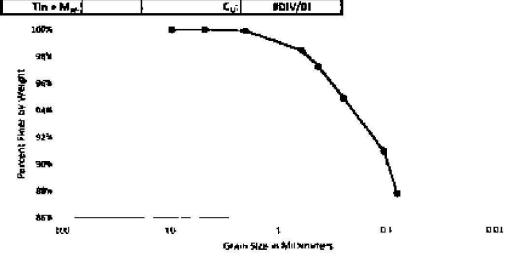
CLIENT: For	Rothchild	TECHNICIAN:	MPR
JOB NUMBER: 21-	1008	TEST METHOD:	ASIM C117, ASIM C136
PROJECT: His	eakth	SAMPLE NUMBER:	Cless 018 Pan E
SAMPLE DATE: 6/7	1/2029	SAMPLED BY:	CRG/BDL
TEST DATE:		SCURCE	23-1005 20-21.5
SAMPLE Les DESCRIPTION :	in Clay, AASHTO = A-6		

Pan • 674.4

Sieve Mumber	Slave Size (mm)	Weight flatsined • Pan (gm)	Weight Retained (gm)	Percent Retained	Forcent Rear
0.375	9.53	674.A	0.0	0%	100%
4	4,75	क्षांत्र	0,0	DW	100%
10	2	674.8	0,4	0%	100%
30	0.6	679.5	5.1	2%	98%
40	0.425	678.6	4.3	3%	97%
60	0,25	682.7	8.2	5%	95%
140	0.106	688.5	14.0	9%	91%
300	O.Ca	685.7	71.7	12%	88%
Pan		679.6	308.7	100%	0%

Total 351.8

Uniformity Coefficient, Persont Moisture, and Mass Lest			Washing		
mittel Mass:	351.8	M Maistoure:	#O(V/0)	initial Mass	3 <b>51</b> ,8
Final Mars.	15L8	010:		Mass of Part - Soil (B)	764.36
% Wass Lost:	0.0%	D30:	18	Mass of Pan + Soil (A)	460.69
Tih!		D60:		Mass Passing 200	303.5
Tin + M _D		Ç:	ADIV/01		
			America desa		



Cate Created: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Data Revised 2/11/21

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CLIENT;	Fstol	TECHNICIAN:	MPS	
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04318-10	
PROJECT:	Hideaway Hills	SAMPLE NUMBER:	019 Pan A7	
SAMPLE DATE:	6/19/2023	SAMPLED BY:	CAG/BOL	
TEST DATE:	7/31/2023	SOURCE:	23-1007 5-6.5 ft	
SAMPLE DESCRIPTION:	Silty Clay with Sand,	AASHTO = A-4		

Liquid Limit

Can No. Mass of can Can • wet

Can + dry SMA

Blows N Blows Required

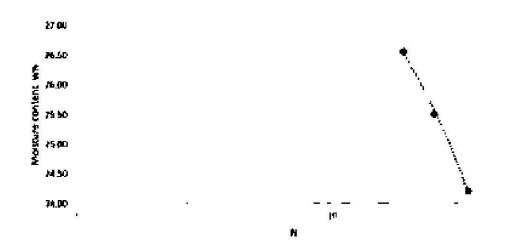
XS	C [	GG		
21.11	20.76	20.76		
33.94	35.67	31.24		
31.44	32.54	29.04		
24.20	25.51	26.57		
34	25	19		
25-35	20-30	15-25		

Physic (amit

. 13	7
20.95	21.12
39.63	44,71
36.75	40.98
IB.23	18.78

t[=	26	A42230
P1 •	7	1

	<u> </u>
Classification	CL-ML



Q:\Projects\2021 Projects\21-1006 Hideoway Hills\Lab Testing\Attobergs 2023\Classification 019 23-1007 5-6.5 ft. siss

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	Terror and a second			
CUENT:	Fox Rothchild	TECHNICIAN:	MIPH	
JOS NUMBER	21-1008	TEST METHOD:	ASTM CL17, ASTM CL186	
PROJECT:	.Hideonway	SAMPLE NUMBER:	Class 019 Pan B'	
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CNG/BOL	
TEST DATE:	line) is	SOURCE	23-1007 5-6.5	
SAMPLE	Silty Clay with Sand, A.	ASHTO « A-4	5	***
DESCRIPTION:				

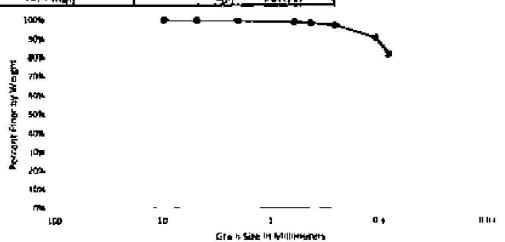
Pan = 674.4

Sieve Number	(mm) (mm)	Weight Retained + Pen (gm)	Weight Retained (gm)	Percent Retained	Percent Ferer
0.375	9.53	674.4	<b>0.0</b>	<b>976</b>	100%
4	4.75	674.7	0.3	C%	100%
20	2	675.0	Q. <del>6</del>	0%	\$00%
30	0.6	676,5	2.1	1%	99%
46	D.425	675.1	1.6	23%	58%
50	0.25	67a.3	3.4	3%	97%
140	D.105	693.8	19.4	9%	91%
200	0.00	700.6	75.2	18%	82%
Pan		698.0	242.2	100%	0%

Total

Uniformity Coefficient, Persont Moleture, and Mass Lost Washing 296.7 296.7 % Moleture: POIV/OL initial Mass India Mass! Mass of Pan + Soil (5) 689,1 D10: Firm Mass: 296,1 0.2% D30: Mass of Pan • Soil (A) 470.46 % Mass Lost: Mais Passing 200 218.6 Tin: D60; #DIV/OI Tin + M₀. T-1 = M. POIV/O!

295.1



Date Created: 19/3/16
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Date Revised: 2/11/21

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CUENT:	Fox	TECHNICIAN:	MPR
JOB NUMBER:	21-1008	TEST METHOD:	ASTM 04338-10
PROJECT:	Hidenway Hills	SAMPLE NUMBER:	Class 20 Pan V2
SAMPLE DATE:	6/21/2023	SAMPLEO BY:	CRG/BDL
TEST DATE:	8/1/2023	SGURCE	23-1006 1-2.5ft
SAMPLE DESCRIPTION:		lay with Sarid, AASHTO = /	4-6

Liquid Limit

Can No. Mass of can Carp + wrot

Can + thy MA

Blow's N Blows Required

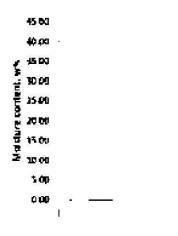
	THE PROPERTY OF THE PROPERTY O				
21	JB	4			
20.75	20.86	20.55			
32.02	31.32	31.32			
29,15	28.49	25.10			
34.17	37.09	42.65			
3.2	25	15	88		
25-35	20-30	15-25			

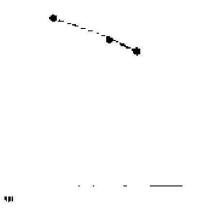
die	L	mil.

15	XS
20.73	20.74
39.77	44.09
36.05	39.97
21.02	21.42

<u>μ</u> =	37
PI =	16

Checification	CL
	10 m 20 m





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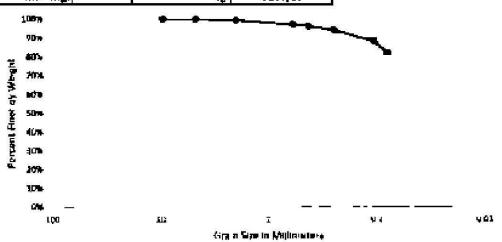
CUENT	Fox Rothchild	TECHNICIAN:	WP N
JOB NUMBER:	21-1008	TEST METHOD: /	ASTM C117, ASTM C136
PROJECT	Mdesway	SAMPLE NUMBER: E	days 070 Pag M
SAMPLE DATE	6/21/2029	SAMPLED BY: 0	ONG/BOL
TEST DATE:		SOURCE 2	23-1006 1-2-5
SAMPLE DESCRIPTION:	Lean Clay with Sand, Al	SHT0 = A-6	

Pan + 674,4

Sieve Mumber	Steve Size (mm)	Weight Retained = Pan (gm)	Weight Rétaines (gm)	Percent Retained	Percent Piner
0.375	9.53	574.4	Q.D	D%L	100%
4	4.75	574,4	o,q	0%	100%
10	7	676.2	1.7	1%	99%
30	Q,E	580,8	6.3	3%	97%
40	0.425	577.3	2.9	4%	96%
80	0.25	580.4	5.9	6%	94%
140	0.106	692.3	17.8	1,2%	88%
200	0.08	650.7	18.3	18%	82%
Pan		884.7	242.9	100%	0%

Total 295.9

Uniformity Coefficient, Percent Moisture, and Mass Lost		Westiling			
initial Mass:	256.7	% Moisture:	PDIV/01	Initial Mass	296.7
Final Mass:	295.9	DIO:	J. J. 738516 <b>1</b>	Mass of Pan + Soil (B)	715.49
% Mass Lost:	0.3%	D30:		Mass of Pan + Soil (A)	483.91
ŤIp.		060:		Mass Passing 200	237.5
Tin + M _D :		C _C :	#OFV/01	1	
Tim + Mail		<b>€</b> ati	PDIV/01		



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CLIENT:	Fox	TECHNICIAN.	MPR
JOB NUMBER:	23-1008	TEST METHOD:	ASTM D4318-10
PROJECT;	Hideanusy Hills	SAMPLE NUMBER:	AB Class 021
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/RDL
TEST DATE:	1/1/2023	SOURCE:	23-1005 10-12-5 ft
SAMPLE DESCRIPTION:	Sandy Lean Clay, AAS	HTO = A-4	

Liquid Limit

Can No. Mass of can Can + tyet

Can + dry 36M

Blows Required

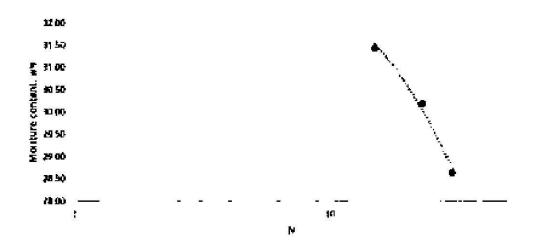
ML	] _ GG	16		
20.73	20.78	20.85		
37,98	33.24	34.14	·	
34,14	30.35	30.96		
28,64	30.20	31.45		
30	23	15	88	
25 <del>-3</del> 5	20-30	15-25	ncches	

Plastic Limit

23	24
20.96	20.62
34.66	35.46
32.50	32.98
18.72	20.39

<b>U</b> =	30	-
Pla	10	

577	(5)
Classification	C).



Qt/Projects\2021 Projects\21-1006 Hideaway Hills\Lab Testing\Attabergs 2023\Classification 023 23-1005 10-12.5ft.ebs. PO 8ex 1476 Rock Springs, WY 82902 307-262-9280 www.westernep.com



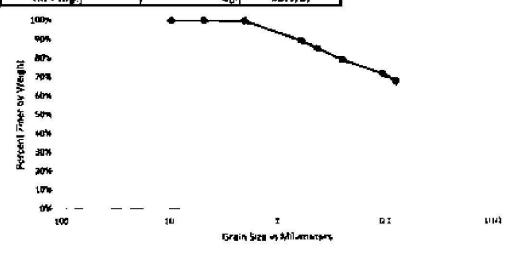
CLIENT	Fox Mothehild	TECHNICIAN:	LIPS
JOB NUMBER:	21-1008	TEST METHOD:	ASTM C117, ASTM C136
	Hideaway	SAMPLE NUMBER:	Class 021 Pan C
SAMPLE DATE:	6/21/2023	SAMPLED BY:	CRG/BOL
TEST DATE:			23-1006 10-12.5
SAMPLE	Sandy Lean Clay, AASHTO = A-A		
DESCRIPTION;			

Pan + 674.4

Sieva Mumber	Sieve Size (mm)	Weight Refained = Pan (gm)	Weight Retained	Persent Retained	Percent Finer
0.375	9.53	\$74.A	0.0	0%	100%
.4	4.75	674,4	d.D	17%	100K
10	2	675.a	1,4	.0%	100%
30	0.6	715.8	ALA	11%	89%
40	0.425	691.4	169	15%	85%
60	0,25	698.6	24.2	21%	79%
140	0.106	704.0	29,6	28%	72%
200	0.00	690.8	16.4	32%	68%
Pan		679.3	27 L.7	100%	. 0%

Tobs 401.5

Uniformity Coefficient, Percent Moisture, and Mass Lost			Washing		
Initial Mass:	402.9	% Malsture:	#DIV/til	ipitibil Miless	402.4
Finel Mass.	401.5	B10:	147	Mass of Pan + Sod (B)	834.96
% Mass Lost:	0.3%	D30:		Mass of Pan + Soil (A)	568.17
Theta:	0 x-0 tv	D60:		Mark Paredy 200	266.8
Tin + M _b		C _e :	#DIV/01		
Thora Mari		E.J.	#DIV/01		



Date Crement: 10/3/16 CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER Data Revised: 2/11/21

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TO how \$440 Stank Springs, 4/4 \$2000 AND WITE STANK AND WITE STANKS, MITT



Dames Carden i Olividadi Capitar			
(THAIL)	For Perhaults		
AND DESCRIPTION OF	10 4 EG E		
- CHILD	Hidaireen Hills		
SHAPL WANTED	764		
SAMOUT DATE	N/15/75011		
TEST DATE.	ונפבענועי		
DENOTATION	Virtual from core semples		

hi-splu Ri	Peer tribe	Synam K by Lines	Marketin in the companies
क्षां - प्रतिकार्गः क	4975 M R 5734	4.8%	1,17%
pid-o (nég lik	<b>自由14 Mrs 2434</b>	4.045	9.M
24-1080 A	AND MALTONE	140	1,00%
24-3 <b>560</b> B	MINON R SAIS	-36-Q-6%	#0 D19#
73 1200 C	<b>医阿林基 防止止</b>	er e Pa	at Crb
77-1001 0	EDD M & 15 16 5 9	9:57%	e i Jaria
70-1600 Ú	WWW. 10 11 10	14 534	24.50
ás-ugu) r	m/2 02 75 /634	ja ggas	(7.30%
28-100e B	ANDALL 1754	20.78%	14.000
24-1000 B	MHR LSAJR	41.09E	· · · · · · · · · · · · · · · · · · ·
23-1100 t	6/6 MA 10 10 10 10 10 10 10 10 10 10 10 10 10	11.5785	15 aw
M-3060	OPE MA 15 1450	buth.	rt.trk
g#-1064.A	ENS GAR 1 As h	81.476	644
11-1004 B	CORP CASE	244	94.17%
TI-TOM (	TAPAK IPUA	4,115	UR
23-) 085 A	<del> </del>		
	4000 Over(1434	11-874	K.W
Alt-products		79 400	10.75
211066	<b>860</b> 00mm 16.113 h	e ner	# 1/B
AI-MADS 0	MECO-044 13-13-19	\$1.000	李/微
21-1065 !	#F60 Drahal 28-21.5 N	11474	ha lith
23-300MA	7045 Davy 1-2.5 ft	1710b	<u> </u>
D-IBAT	70/3 06/4 5 & E P	499	446
11-1000 C	Then Comp In 12 1 P	11 504	1. P - 167%
th-loss v	\$450 Carry 1-2 4 ft	II OZN	D: 10%
231-3 DEST 6	MIN Day 3-6 5 ft	13.37%	II 4PA
数化的	SOME SOME STATE OF THE STATE OF		771-L675
71-1 (FIRE II	MENSILL Bond 945 h	4.64	COLUMN TO A STATE OF THE STATE
23-1004 (	5905/5122 Warmer 10 12 5 R	8.47%	HLUN
13-1084 T	FF-FF Throwy 3 4.5 %	20.604	14500
T1-1000 4	FROLD Date: 1-45 R	12 1700	b4.44%
\$ \$ -3 DAN C	(AND I Comp to LLAM )	11.40m	10.58%
وجحر جر	MALE COM TO MAKE	E IŽM	n yes
in pical t	APG I. Garry 25 Ab. 5 ft	TOTAL TOTAL	fa_lett
24-2世後4	matel Edward Andr	13 37%	13 ffs
2140ME	Mari C Comp 5-05 ft	XLSAL	74.40M
21-10105	PULL Deg 19:18:5%	14.45%	17.00b
U-30)24	9000 Penges 1 3 3 Pt	117%	37 61%
O-1017 h	SAME PARTY & SAME IN	16 3624	(\$L073)
19-100-A	MADE NO LONG AND A LIGHT	13 865	4.64
23-100 C h	\$400 yr. November 8-6.2 h	n dp.	46.7%
DIBME	645 W Brance 19 11.56	8.34%	1.M%
23-10:140	6405 W. Browness 10-14.50	10.30%	12 4%
21-1014 E	MOS W. Browne 26-21.5 9	3.00	- EMP
	The Court 1.1.1 h	9 12%	2010
U-1015 A		12.00	n qr
G-1895 F	Marie Character 14 5 5		
म भार	10-11-44	74 78%	60.57h
7-10120	100 Ocean U-12.37	11 024	<u>711%</u>
25-1017 h	6401 D-moved 1-1.5 to	51 M/s	
28-1017 #	PRO1 Drawned 5-6.5 ft	34.00%	IT-ANN
an-apare	Mart beamfor (8-1172 y	1-0%	T APPL
ze suce 6	Action Comment 13-33-3 T	3.300	<u> </u>
A SEED A	MATLE Dawy 1 2.5 M	33.14E	GAL TOOK
15-1E/2 B	6871 L Date; 54.1 R	10 80	in the same of the
11/10/27	EF7) F Code; EF 115F1	751%	) pr
	u _p .	75.76	20.00
	ونطنا	1,009	70
	Avo	at all a	16.07
	History	[7 <u>1</u> 664	70.41

PO-Star 1476 Rack Springs, WY Elveki stiff Mik S180 word with brings from



Opinion Contacts (Malakin Opplism		
214M2	Fee Reinchill	
ACH HIAMBER.	21 100	
Market 1	#   with the party of the party	
Print MINKS	'tipa	
ANTHREAD DATE:	A/14/1023	
TEST DAIL:	//stprogs	
SAMPLE DENGRIPHINE	Atmental alles stills remittee	

ر موسط	ر مونون المرابع	Statement in the species	مبدوليل فراج سبنيشاق	
EI- LOOR 4	4625 M.J. 1 1.1 G.	4.381	T.III)	
11-15-11	4925 M. 4 545 E	4 14	DJA	
23-1002 *	AFRONIA 115A	Liter	4.DTM	
79 1007 8	AMM NAME OF THE PARTY OF THE PA	M PAR	14.00	
ZN DOOR L	Manage agree 34	r; n.A	34.\7f-	
201-30000 O	MT ME 13-34-54	9.70(%	II.	
25 Hall I	植物神鱼 排出的	16 list b	344	
15 MOO / )	MTD M.R. 253634	14 444	(7.3d%)	
23 1200 4	GREATH 125H	91,727	15.374	
X1-1009 P	CARMILLET A	47.084	44.5L%	
3 ROOL 415	APPENDE INCLUM	18.477	97916	
1 × 1004 þ	<b>阿斯斯斯斯 1974年</b> 9月	70, E44	ie die	
25-1084 R	\$781 M.L. 1-2.5 B	e vu	ri _e ge.	
29.100m B	6706 64 TL3 65 TH	l Bir Addi	66.38%	
13-1004 £	67% M.R. 15-13 R	6.7186	LNA	
ZI-JEMS A	1899 Deckto 1:25 P	TT MM	LL 25%	
ZJ-1005 E	MARIO CHORAS S-E.S R	54-050	141374	
in Michigan E	min contest 12-11-7 e	0.38	er too	
tar leaky þ	With the second of the page	5) Adj	56.7/6	
La statut I	also males at a 5 e	صدر	37.186	
#1-10m/ P	marks (Separa 2 2.5 ft	12 maps	11,10%	
24 LOCT #	30 PO Darry 1-a.5 A	13,371	<b>○电点</b> 下降	

Politics | 478 Real Springs, WF Briefs 307 (60) 31(6) West and Strong Com-



Open Contact Oblives Organ			
Caller	For Backdail		
CH MUMBE	In-1004		
Phote Ct.	jamen jamen		
factory actions.	: pr		
- فالمناع و موسطال	6/30/2020		
TEST CASE	מוסמונינוי		
SUME OCKWYLIN	About the set of Property		

12 منوسما	Containe.	Spran & Dec and	Marie of Dynamic (g)	Votero el Organio Personago
D-ROMA	7945 Date: 1-2.3 P	D.TE.	EMIL	2014
73 1164 9	70-C3 Deray 3-E-5 N	(12)	447	ng sign.
77-1004-5	PROFESSION DE LA LA PA	11.A00	1.171	i na
23-JOHN 6	SOME THE BLOCK I - 2 E H	25.586	1386	744
15 Ebro-6	SOUND THE BUILDING SALES	() m	OUT L	10.00%
29 HONE C	500 1/21 th formal 10: 11 h h	Light	- THE	14.574
11-1001 4	4242 ± Unitery 1.3.54s	jap Beds	1 600	14.00%
23-14 <b>23-1</b>	67474 Date: 5-454	32.190	1.5745	14 days.
7-1-7-5	開発に Amer は はられ	11.466	أناها	21, NW
III- WOOLD	1742 I. Dog 15-14-3-9	LIFT.	วมม	T. 77%
77-13-055	5747 I Cate, 15-36 64	DI 044	1872	
इंक प्रदेशक है		19275	LIM	24.77%
Th union	BEF1 Date: 3-6.3 ft	, 73 TOB	iun	34 454
2) <b>(3)</b> (1)	MALE COMPLETED S	St with	1 100	17,009
غ لاق ط	SORP Proceeds 8-2-5 Fr	13.74E	0.107	កូម៉ូង
TE 12/17 E	GAF Panedo b-6.5 ff	18.184	. ± tela	14.014
10 1011 A	5001 Parenta 7-6.5 ft	61.345	MEC	is and
Se Mode II	transfer in the state of	Ph 745		15.000

MAID

POSter 34 få Berk Springe, dår klåssi sål? 360 slåsk merk menkering derr



Opto- Leminat (16 Mile Gypto-					
ELL MI	Fan Harrerde				
	71 - <b>Mirtu</b> l				
	printer-thi   Jacks				
SHARL AND PARTY.	Topo				
CHANGE DALL	2/12/98/				
TANK CAPT.	// LE/Iniza				
nakharaji Inkhalinki kana	Value Property of Colors				

Francis P.	Dept. State Co.	1	District of Part and	Mary of Charges (2)	Voterna of Reputer Personality
EL-1642 A	48794 Comp 1-2.24	X	50.386	7,911	-44 PM
21-10-2	M792 Daty 5059	178	<b>利用 日本</b>	j. rija	BA ME
in-1002 C	M971 E. Onne 10-11-571	34	7.846	فالبل	-
39-1014-4	AGG Garrer \$ 7.5 M	[13	¥ 115	192	10 Min
211-1 (1915 B	4884 Glacor 3-4-5-9	10	Tà dier	2 (48	77-484
28-1045 (	424 (Sector 30-17), 2 ft	TE	78.784	17 104	40.045
##-1b### 0	Albid Company 1.5-36.5 ft	70	فطرا والم	I P**	71 174
29-1048 A	Leterous S4L3 ft	HE.	76.209	وحفيت	10.07
GP 1047A	GCC Dresent 1256	100	51.14	1.000	54.70
20-1017 P	GROS Chronical 5-6.FR	-	34 875	J. 17946	77 £1%
23-1047 C	1201 December 10-11.5 P	10	1417	0 100	LEE
<b>ή.</b> μήτο	PER IN- U-U-S N	T.	3.500	1004	1.71.16
25-304 A A	3465 Vy. Dameyori (-2.5 H	[HII	para.	2 000	E.A.Ph
20-1014 h	Anni W Howard 5 a.5 4	177	n de	5 642	en site.
23-10b9 C	MATS W. HATELAND TO ST. S. R.	NG	8 142	1.500	1.34%
M-10MA 0	MEW Breast that se	10	14 3/6	± 73d	HAR
20 1004 E	SHOW W. Enmand 30 Tt 5 ft	KE	7-04	0.967.	151W

12.25%

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CLIENT:	Fox Rothchill	d	TECHNICIAN:	ZCM/JP			
JOB NUMBER:		1-1006	ASTM:	And the control of the control			
	Blackhawk A			Α			
SAMPLE NUMBER:			HAMMER TYPE:				
SAMPLE DATE:	5/15/2023		SAMPLED BY:	CRG/BDL	500		
TEST DATE:	8/11/2024		SOURCE				
SAMPLE	Red Lean Cla	γ	William Control of the Control of th	· ·	7		
DESCRIPTION:	2				2		
Mass retained on #4		Mass Passing #4		Percentage	וט/עוט»		
Sleve (lb):		Serve (lb):		Retained:			
Volume of Mold		Weight of	1200 CON	Number of	51.5 V-\$250s'		
(ft ^e ):	0.0333333	Hemmer:	5,5	blows/layer:	25/3		
Ge=	2.67		Test No.	10-FT	-2"		
item	1	7	. 4	4	5		
Mold and Base (lb)	9.900	9.500	9.900	9.900			
Mold and Base +							
Mobit Sell (No)	13.930	14.140	14.340	14.161			
Motel Soil (Ib)	4,030	4.240	4.440	4.261			
Moist Unit Weight							
(lb/ft3);	120.90	177.70	133.20	127.83			
Moisture Can #	A.	A3	A7	AZ			
Moisture Cart (g)		D.34	0.34	0,34			
Can + Moist Sof (g)	1.37	1.25	L37	1.66			
Can + Dry Soft (g)	1.30	1.17	1.23	1.43			
Moisture Content							
(%)	7.29	10.04	15.73	21.10			
	9						
Ory Unit Weight Compaction (lb/ft3):	74760	ide en	110 70	VOE EE			
COMPACTION (INVISE)	112.68	115.60	115.10	)05,56			
130 00							
E							
<b>幸 11110</b> 0	<u>=2-</u>						
E 11100	•						
E 10800				-			
		y distant	144.554 - 01.004	-			
\$ 100.00 \$ 100.00			0 Ave				
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	XX 700	9:003 1:000 1	3 CO 13 UO 17 OO	1900 2100	15.00 251		

Q:\Projects\2021 Projects\21-1008 Hideaway Hilks\Lab Texting\Proctor Red Lean Clay 2023.rdm

12.5

CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

yd(max) (lb/ft²):

116.6

HH_0009725

Optimum Moisture Content (%):

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West 1986 17.85 16.46 16.69

Q:\Projects\2021 Projects\21-1008 Hidesway Hills\Lab Testing\Proctos Red Lean Clay 2023.xks:

PO Box 1478 Rock Springs, WY 82902 307-362-5180 www.westernegl.com



Note: Input D698 or 03557 Note: Input Upper Case Letter Only in Method Section (I.e. A. B. or C)

Natural Moisture Percentages						
CLENT: Fox Rothchild						
JOB NUMBER:	21-100B					
PHOJECT:	Hideaway Hulls					
SAMPLE DATE:	6/21/2023					

			en tonie			
	Depth	TA	Mass of Tin	Tin + Wet	The + Dry	Moisture %
23-1001 A	1-2.5	. 24	20.59	76.02	73.87	4.0%
23-1001 8	5-6-5	11	20.88	77.35	67.37	21.5%
23-1001 C	10 11,5	A	20.91	21,5	75.32	11.4%
23-1001 0	15-15.5	功	20.58	72.99	69.05	8.1%
			7F (897)			
B3H	Depth	Tim	Mass of Th	Tin + Wet	The + Dry	Maiston %
23-1002 A	1.25	29	20.63	86.35	75.58	13.4%
23-1002 8	5-6,5	LB	13.45	67.7	62.55	10.5%
23-1002 C	10-11-5	12	13.54	70.61	63,48	14.3%
23-1002 D	15-16-5	7	21.09	96.04	76.96	34.2%
23-1002 F	20 21.5	WE	13.6\$	75.83	61.14	25.6%
23-1002 F	25-26.5	G	13.45	84.26	71.57	21.8%
23-1002 G	30-31-3	2	20.89	82.26	75.76	11.8%
			77 1001			
	Depth	Tim	Mass of Tin	Tin + Wet	The + day	Moisture %
24 · 1003 A	1-1-5	26	20.68	84.6	72.31	24.8%
23-1003 A	5-6.5	9	90.68	84.27	75.07	17.1%
23-1003 C	15-16-5	F	20.64	86.77	75.9	17.5%
29-1003 D	10-13.5	16	20.78	80.38	71.48	17.6%
23-1003 €	10-	Ş	<u>;</u> 21	63.57	75.9	12.1%
			14 this			
뻐	Septh	Tin	Mass of Tin	Tin + Wee	Tim + Dry	Molsters %
23-1004 A	1-2.5	E	1 20.76	81.77	67,94	29.3%
23-1004 B	5-6.5	_ A	20.94	72.41	57.49	40.B%
23-1004 C	10-12.5	1	20.91	26.03	75.59	19.2%
23-1004 D	15-16.5	NO	20.72	82.22	75.61	12.0%
			_1 Intri			
<b>84</b>	Depth	Tin	Mass of Tin	The + Wat	Tin + Ory	Moisture %
23-1005 A	1-7.5	17	20.68	97.9	86.19	17.9%
23-1005 B	3-6.5	11	] 20.89	10165	85.14	25.7%
23-10 <b>0</b> 5 C	10-11.5	14	20.89	83.17	71.15	23.9%
23-1005 D	15-165	13	20.79	84.27	71,34	25.6%
23-1005 €	20-21-5	ā.	20.87	105,76	91.74	19.1%
23-1008 F	24-75.5	1	20.96	17.42	71	12.8%
23-1005 G	30-30,2	35	20.91	69 68	60.66	12.6%
			25 150%			
附	Depth	Tin	Mess of Tin	Tip + Wet	Tin + Dry	Moisture %
23-1006 A	1-25	Ė	20,75	72,58	63.12	22,3%

23-1006 B	5-6.5	23	70.9	55,06	56.42	35.6%
23-1606 C	10-12.5	33	15.73	81,94	67.8B	26.0%
29-1006 D	15-16.5	24	20.61	78.23	73.19	9.6%
23-1906 :	70-20.75	4	20.57	73.93	67.72	13.2%
t-a-1 Arien t	10-100-5	3397	I-ROOM	14-44	Ha.l+	14-44
	Depth	Tiri	Mass of Thi	Time a Mark I	The + Dry	Moisture %
23-1007 A	1-2.5	MO	20.71	78.36	72.48	11.4%
23-1007 8	5-6.5	13.	20.95	85.4	79.7	9.7%
23-1007 05	5-6	13	20 88	88.76	B1.24	12.5%
C-100/03	2.11		T-IUMA	BB11 B	Main'	12.574
gát	Cepth	Tin	Mass of Tin	Tin + Wet	Tin + Cry	Moisture %
23-1008 A	1-2-5	3.7	13.65	78.45	66.55	22.5%
23-1008-6	5-6.5	4	20.56	85.73	71.73	77.4%
23-1008 C	10-11-5	72	20.37	H9.12	75.18	25.7%
Z3-J406 C	18-40		7-1009	u.s.a.e	1246	acate 10
BH.	Depth	Tio	Mass of Tin	Tin + Wet	Tin + Dry	Moisture %
23·1009 A	1-2.5	 5	20.75	94.75	75.01	15.8%
23-1009 8	3-6.5	. <u> </u>	20.87	72,47	61.43	27.2%
23-1009 C	10-11-5	N)C	20.67	73,44	63.08	24.44
23-1009 D	15-16.5	13	20.75	96.82	81.19	25.9%
23-1009 E	20-21.5(Top)	27	20.77	67. <del>98</del>	75.7	22.4%
23-1009 F	20-23.5(Mid)	5	20.72	78.84	67.62	23,9%
23-1009 G	20-21.5(Bot)	JB	20.75	B1.36	70.35	22.2%
23-7009 H	25-26.5	15	13.7	79.04	69,68	16.7%
			E M C	1	16-	
	Depth	Th	Mass of Tin	Tin - Wet	Tirs + Day	Maisture %
23-1010 A	1-1.5	15	20,75	75.74	66.75	19.5%
23-1010 8	5-6.5	27	20.76	79.58	73.51	11.5%
29-1010€	10-10.5	ĠG	70.72	108.28	100.73	9.4%
		9	י ומל לי			
	Depth	Tin	Mass of Tin	Tin + Wet	Tin 4 Day	Moisture %
29-1012 A	1.5-3	29	21.21	77.55	66.98	23 1%
23-1012 B	5-65	ĊĢ	20.56	84.38	71.52	25.2%
23-1017 €	10-11.5	34	21.08	73.9	67.01	15.0%
_		•	13 Ja _ 1			
BH	Depth	Tin	Mess of The	Tin + Wet	Tin + Dry	Molsture %
Z3-1013 A	5-6.5	35	<b>20.81</b>	73.19	64.33	. 20.3%
23-1013 B	9-10.5	XL	13.79	75.95	64.73	72.0%
			19-10% <b>e</b>			
RH	Depth		Minus of Tim	The + West	Tin + Dity	Molsture %
25-1014 A	5-6.5	BE	70.77	78,88	69.55	19.1%
23-1014 B	10-11.5	19	20.61	76.73	65.26	25.7%
23 1014 C	15-16-5	_31_	20.74	95.64	81.65	12.9%
25-1014 D	70-21.5	MAL.	20.62	77.84	69.79	16,4%
			es agains	6 6 5000 100		28
	Depth	Tin	Maus of Tin	Tim + Wat	Tin + Dry	Moisture K

23-1015 A	1-2.5	R	20,96	83,53	76.79	12.1%
23-1015 8	5-6-5	30	20.79	84.43	78.76	9.7%
23-1015 C	10-11-5	H	21.04	70.09	59.65	27.0%
23-1015 D	15-16.5	Z1	Z0-63	79.9	70.31	19.3%
25-1015 F	20-20.75	E	20.73	79.38	70,14	18,7%
<b>23-1015</b> F	25-25.25	14	20.47	84.09	79.15	8.3%
			gliddie			
MH	Gepth	Tho	Mass of Tin	Tin + Wet	Tin + Dry	Moisture %
23-3036 A	5-6,5	X5	20.7	92.12	80.52	19.4%
33·1016 B	10-10.7	GG	20.73	78.42	59,15	19.1%
			71.1967			
juH	Depth	Tjen	Maps of Tin	This + West I	Tin + Dry	Moisture %
23-1017 A	1-2.5	7	21.09	72.94	53.26	23,0%
21-10176	5-6.5	14	20.83	99.34	76 81	29.5%
25-1017 C	10-11-5	3	20.87	84.12	71.75	24.5%
23-1017 D	15-16.5	19	20,64	90,74	72,2	16,6%
23-1017 E	20-21.5	13	20.77	58.94	51.71	17.7%
79-1017 #	37-35-5	JB	20.77	653	63.37	15.3%
			1015			
BH	Depth	T]n	Mess of Tin	Tio + Wal	Tin + Dry	Moisture 2
28-1018 A	1-1.75	MA	20.75	71,45	67.52	B.4%
			73 1093			
BH	Depth	Tin	i Mass of Tin	Tim + West	Tin+Dry	Moisture 9
23-1027 A	1-25	3.3	13.68	89.21	57.77	25.9%
23-7072 B	5-5 5	17	20.65	80 63	69.43	23.0%
23-1022 C	10-11,5	8	13,95	79,7	70.55	36:2%
24- <u>1</u> 027 D	15-16.5	23	20, <b>3</b> 7	77.51	71.54	11.8%
23-1022 E	20-20.67	i	20.98	78.51	7144	14.6%

1130 Rocides Circle Rock Springs, WY 82901 307-852-5180 www.wintstragj.com



3FT Corrections N _{et}							
CLIDAT:	Pops, Mantitych (Sci						
ADM NUMBER:	51-100K						
MORE	Hitch according (41 lbs						
SAMPLE DATE:	8/71/7025						

Borehole	DEPTH (FT)	N (MACHINET)	LENGTH	HOLE	HH	78	7,5	HE	N _U BLOWS/FT	N _o SLOWS/F
	1		[FT]	[BH()		_				
	2.5	11	0,5	4.5		1	1	0.75	12.75	13
23-1001	6.5	17	4.5	4.5	æ	1	I	0.75	以乃	13
	115	54	9.5	4.5	. 60	_1_	. !	0.75	40,50	41
	16.3	100	14.5	45	7.5	1	í	0.85	N (X)	N.
	2.5	<u> </u>	8.5	4.5		1	1_	0.75	1.75	10
	6.5	10	4.5	43	60	1	1	0,75	7.50	¢
#41/4100P#1 #5_	115	4	75	4.5	60	1	1	0.75	7.25	5
<b>33-1002</b>	16.5	1	145	4.5		1	<u> I</u>	0.85	5.93	E
	2).5	9	19.5	4.5	64	1	ţ	G1.875	7.65	
	26.5	5	245	43		1	1	0.95	4.75	5
	313	50	25.5	4.5	æ	1	1	0.95	47.59	40
			77.5980							
	2.5	8	0.5	4.5		1	1	IL75	4.50	5
	<b>6.</b> \$	7	4.5	4.5	60	_1_		0.75	5.15	5
25-1003	155	5	9.5	4.5	60	1	1	0.75	1.75	4
	16.5	#	145	4.5	8	1	1	0.87	E-BO	7
	19.5	43	17.5	4.5		1	1	0.85	36.55	37
	A)	50	23.5	4,5	8	1	1	0.95	47.50	44
	2.5	35	25	45	B	1	1	口方	9.75	IĢ
23-1004	6.5	4	4,5	4.5	8	1	1	0.75	3.40	1
E3- 100m	17.5	18	10.5	4.5		1	1	0.75	13.50	14
	16.5	SŤ	14.5	4.5	40	1	1	28,0	44.45	42
	2.5	13	0.5	4.5	. 8	1	1	0.75	3.00	3
	6.5	11	4.5	4.5	<b>6</b> 0	1	1	0.75	4.75	8
	115	16	9.5	4.5	<b>60</b>	1	L	0.75	12.00	าม
23-1005	14.3	12	14,5	4,5	¥	1	1	0.85	70.10	10
	21.5	9	195	4.5	<b>60</b>	1	1	0.65	7 65	3
	25.5	68	23.5	4.5		1	1	0.95	64.60	65
	30.2	<b>5</b> 0	24.7	4,5	3	ī	1	0.95	47.50	48
	-									
	15	13	D.5	4.5	G.	1	L	0.75	9.75	10
	65	1	4,5	4.5	120	1	1	0.75	0.75	1
24-1006	13.5	5	105	4.5	60	. 1	1	0.75	4.50	5
	16.5	70	145	45	eri	L	L	USS	\$9.90	60
	20.75	50	19,75	4.5	60	L	l I	0.85	43,50	45



	65	67	45	4.5	60	1	Ī	0 75	SD 35	50
	115	54	9.5	4.5	E	ī	i	0.75	40.50	41
	16.5	76	11.5	4.5	60	1	ı	0.85	64,60	65
74-1007	21.5	44	13-5	4.5	E0	$\overline{}$	1	0.83	40.00	41
	26.5	78	245	4.5	E0	ī	ī	0.95	74.10	74
	31.5	50	295	4.5	60	1	-1	0.95	47.50	4
	465	50	44.5	45	50	1	ī	1	50.00	50
	-+-	7-						_		
	15	4	05	4,5	ED:	1		0.75	3.00	- 3
	65	4	45	45	60	ī	T	0.75	3.00	3
23-100%	11.5		9.5	4.5	(80)	1	-i	0.75	6.00	•
	16,5		16.5	1.5	60	<u> </u>	ī	0.85	60.50	43
	1-1-1-	_	A.V.3	(214		-				
	2.5	•	05	45	60	1	1	0.75	6.73	1
	6.5	<del>-</del>	45	45	60	i	-	0.75	1.50	Ť
	11.5		95	4.5	50	ī	Ť	0.75	3.00	7
23-1009	16.5		145	45	60	i	1	0.85	510	3
I.F.IMI	115		195	4.5	Bb	1	1	0.85	0.00	á
	16.5	14	24.5	45	60	1	<u> </u>	0.55	13.30	13
	30.1	50°	28.1	45	<del>00</del>	1	i	0.55	47.50	45
	Pull	30	404	4-3	φ.		<b>+</b>	دجم	70,50	-
		19	ۆە	45	60		t	0.75	3.75	10
23-1010	25	10	4.5			1		0.73	7.50	- <del></del>
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		-			-00			i miteri	3.75	-
** ****	3		1	4.5	60	1	1	0.75	16.50	17
13-1017	6.5	. 22 .	4.5	4.5	10-1-1-10/1	1000 (	1	0.75	10.75	- Ir
	115	45	9.5	4.5	ėΟ	1	_ 1	0.79	39.12	34
		7.5			/ <b></b>	-	4	A-34	10.00	22
23-1013	2.5	26	4.5	6.5	80	1	1	0.75	19.50	30
	10.5	32	<u>§</u> .3	4.5	ŠĢ.	1		0.75	24.00	24
					0 . <b>_</b> 0					
	5.5	10	4.5	4.5	. 60	1	1	0.75	7.50	- 1
23-1014	115	15	9.5	1.5	80	<u> </u>	1	0,75	11.25	. 11
and national	16.5	17	143	4.5	<u> </u>	1	1	0.65	34.45	5.8L
	21.5	Q	195	4,5	<b>50</b>	1	1	0.05	51.70	. 53
			y				920			
	25	7	0.5	4.5		1	1	0.75	5.25	5
23-1015	6.5	<u> </u>	4.5	4.5	60	1	1	0.75	4.50	<del></del>
	11.5	- 4	9.5	4.5	B	1	1	11.75	3.00	3
	16.5	28	14.5	45	RO .	1	1	0.85	13 A)	24
	19			W			-			
23-1016	6.5	75	4.5	45	- 60	1	1_1_	0.75	54.75	55
	10.1	<u> </u>	1.1	4.5		í	1	0.75	37.50	30)
	25	14	<b>05</b>	4.5	] [	1	1	0.75	10.90	11
	6.5	15	T-65-	4.5	60	1	11.	0.75	17.25	ננ

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	11.5	13	9.5	1.95	100	3	1	0.75	9.75	10
23-1017	16.5	ΔL	145	45	60	ī	İ	0.85	34.85 ·	35
	21.5		195	4.5	60	1	1	0.45	2T 00	51
	37.5	<b>50</b>	303	1.5	60	1	1	0.95	47.30	48
	30.1		781	4.5	60	#	1	0.55	0.00	o
	15	•	D.5	4.5	60	1 .	1	0.75	5,75	7
	6.5	22	4.5	4.5	50	1	L	0.75	15.50	17
25-1022	115	_ 1	9.5	4.5	60	I	1	0.75	£75	7
	16.5	58	14.9	4.5	2	I	e k	0,85	43.50	_43
	20.67	50	18.67	4.5	60	1	1.	0,85	40.50	41

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Diemeter of the Aing (m):	2.42
traight of the Ring (in).	0.993
Weight of the Rose (a):	107.52
Weight of Ring r Sample (Before Inunderlon, a):	245.98
ential Wat Mass of Specimen (g)	138.45
Initial Dry Mass of Specimen (g):	117.10
Initial Yolunia of Specimen (Inhia)	4.57
michel Dry Decatty (pcf)	53
Mittel Middeburg Content:	<u>.</u>
Tin Weight (g):	20.53
Tim Weight + Sad Wat (g):	<b>69.3</b> 7
Tin Weight + Soul Day (g);	59,34
Montpell Consent:	23,51%
Monture Centeri After Inundation:	74 27 48
Part A (g)	477.23
Pan A + Ring + Sample (Before Crying #)	775.15
Parr A - King + Sample (After Crying, g)	591.77
Mohiture Content:	22.54%

0.256544 0.541156 0.304612 0.346630416

Loading Phases	Vertical Dial Reading	Time
Irrinal Renderg	0,0000	11110 AM
Incremental Loading to In-Structure State per	-0.03	11:50 MM
incremental Loading to In-otto Pressure: 1500 pd	-0,0566	11:50 AM
In-aftu Préssurés 2500 perf	40.0655	12-10 PM
Rebound	-0,0606	12:30 PM
Networkski Loading to the Stu President 500 pel	4.0629	1:10 PM
incremental Leading to in-oite Pressure: 1500 ppl	-9.0655	3:30 PM
in-silu Pressure: 1500 pari	-0.087	L:50 PM

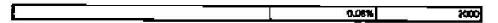
Time After Land Application and Inundation (min)	W. (hein)	Vertical Dia Reading
	I <b>I</b> .	TC -0.0659
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0.2	i a	71 -0.0634
	1.	DC -0.0657
s	1	(1 -0.0 <u>633</u>
	7.	00 -0.0651
1	2.	-0.0647
1	3.	0.0644
	5.	48, 0.063 9
54	7.	75 40,040.5
12	, ot	-0.0633
74	15.	4063
40	p	91 (0.052)
144	37.	95 -0.0626

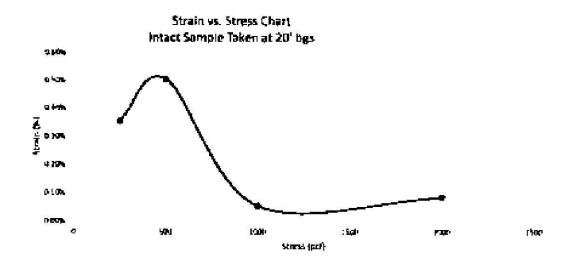
hj	0.9271
4,	0.9304

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50min	0.364	250
	0.5194	500
	Q-(16%)	1000

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Diameter of the King (in):	2.42
Helight of the Rhot (In):	0.993
Wheight of the Ring (c);	107.52
Weight of Fing + Sumple (Perfore Inundation, g):	256.65
Initial Mat. Man of Specimen (g)	149.13
mittel Ory Mass of Specimen (g):	132.00
Initial Volume of Southwen [In-5]	4.57
Initial Dry Dequity (pcf)	110
Initial Moishure Currierts	5 <del>.</del> 048.0
Tien Winderfatt (g):	-495
Tin Weight + Spil Wet (g):	1981.5
Tiet Weight + Soil Dry (gd:	1766,63
Mostere Content:	12.94%
Moderne Cornert After Investmen	
Plant RA Ind	257.77
Part A = Filing = Samble (Selecte Dryling a)	501.91
Part & - Rong a Sample (After Drying, g)	170.71
Mounte Centent:	17,81%

0.236544 0.5646) 0.526066 0.290393944

Loading Phones	Vertical Dad Respirat	Digital:
Inntal Reading	9.0000	11:10 AM
The systematical academy to the pipe Pressure. 500 psf	-0.0053	
incremental Looking to in-situ Pressure: 1900 pd	-0.0943	11.50 AM
in-stru Protestre: 2500 psi	-0.000.9	\$2:10 PM
Rebourts (Buttery Ded), respt   hogo		1.2:30 PM
incremental Loading to be the Pressure: 500 psi	0,000,0	1:10 PM
meremetali konding to M-uru Pressure: 1906 pd	-0.0023	1;30 M/
Hesito Programy: 2500 pcf	-0,004	1.50 MA

Time After (sed Application and Instriction (in/n)	रो (गुन्ध)	Vertical Dist Reading
	30.00	Q-0094
Ĺ)	0.31	40,0634
0.25	1.50	-0,0023
Ĺ,	0.11	0.0022
j.	1.00	40.002
	1.0	0.0015
	2.00	-D.COGB
<u> </u>	2.83	0.0001
15	\$-87	0.0006
95	5.41	
60	7.35	0.0083
120	10.95	0,0054
240	15.45	5,0034
	21.51	0.0043
1440	37.95	5.0049

6,	0.9904
Pi)	0.9979

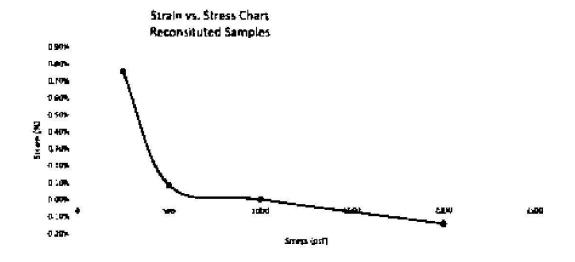
Simula	0.75%	250
	Q.DYN	500
	0.00%	1000

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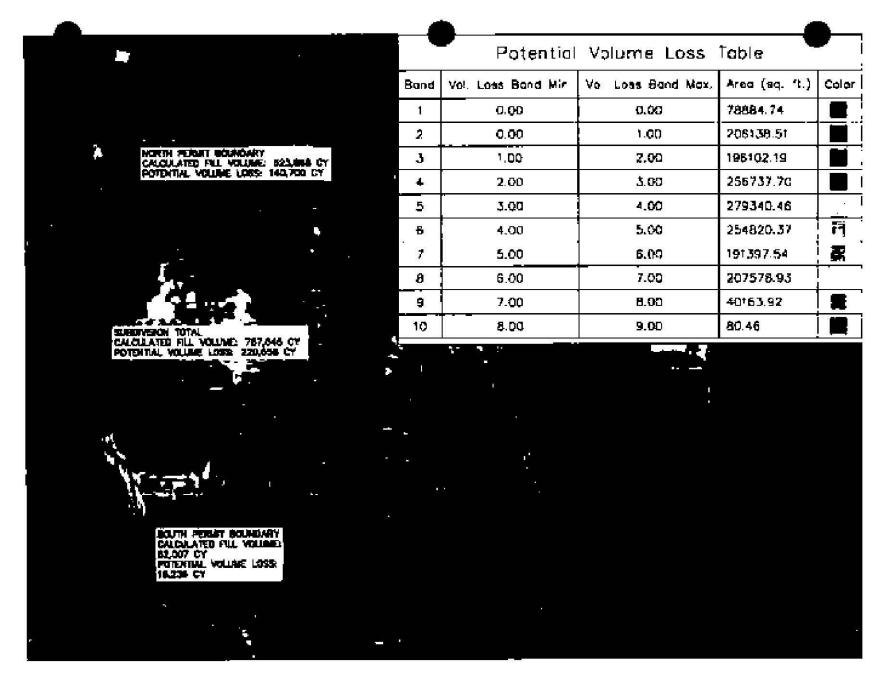






## APPENDIX E

CIVIL 3D MODEL



Total Volume of Fill Using Average End Area

Station (ft)	Area (sq ft)	Volume (Cubic Feet)
0+60.95	0	
		12554.58
1+00	643	
	3 3 1 10 100 100 100 100 100 100 100 100	98350.00
2+00	1324	
		266650.00
3+00	4009	
	× × × × × × × × × × × × × × × × × × ×	481550.00
4+00	5622	7,0200.00
		1127050.00
5+00	16919	1127030.50
2100	10313	1001200.00
C.00	22005	1991200.00
6+00	22905	
		2281050.00
7+00	22716	
		2167600.00
8+00	20636	
2		1520450.00
9+00	9773	
900		917200.00
10+00	8571	SC STORAGE AND STORAGE
		1057750.00
11+00	12584	
	870,000,000,000	1695000.00
12+00	21316	
		2224400.00
13+00	23172	
13.00	20172	2153250.00
14+00	19893	2133230.00
14+00	17073	1777350.00
15.00	15654	1777350.80
15+00	15654	1117750 00
10.00		1116650.00
16+00	6679	
	WARREN TO THE PARTY OF THE PART	348900.00
17+00	299	
		13250.19
17+88.63	0	Mark 700 12

21,250,205 Cubic Feet 787,045 Cubic Yards

North Permit Area Volume of Fill Using Average End Area

Station (ft)	Area (sq ft)	Volume (Cubic Feet)
0+60.95	0	
		12554.58
1+00	543	
(C) (C) (C) (C) (C) (C) (C) (C) (C) (C)		98350.00
2+00	1324	
	27. 03	254150.00
3+00	3759	
		414100.00
4+00	4523	
24 000000000000000000000000000000000000		1004700.00
5+00	15571	V2 37 38
		1825300.00
6+ <b>00</b>	20935	
		2091800.00
7+00	20901	
to		1979450.00
8+00	18688	
		1320850.00
9+00	7729	
9 - 1. 12. 12. 12. 12. 12. 12. 12. 12. 12.		728550.00
10+00	6842	
		862650.00
11+00	10411	
id steam was		1411450.00
12+00	17818	
y tentaria		1765800.00
13+00	17498	
,		374719.67
13+42.83	0	

14,144,424 Cubic Feet 523,868 Cubic Yards

South Permit Area Volume of Fill Using Average End Area

Station (ft)	Area (sq ft)	Valume (Cubic Feet)
13+39.41	0	
		317067.47
14+00	10466	
ROPE K K		868050.00
15+00	6895	
		472650.00
16+00	2558	
		16409.57
16+12.83	0	

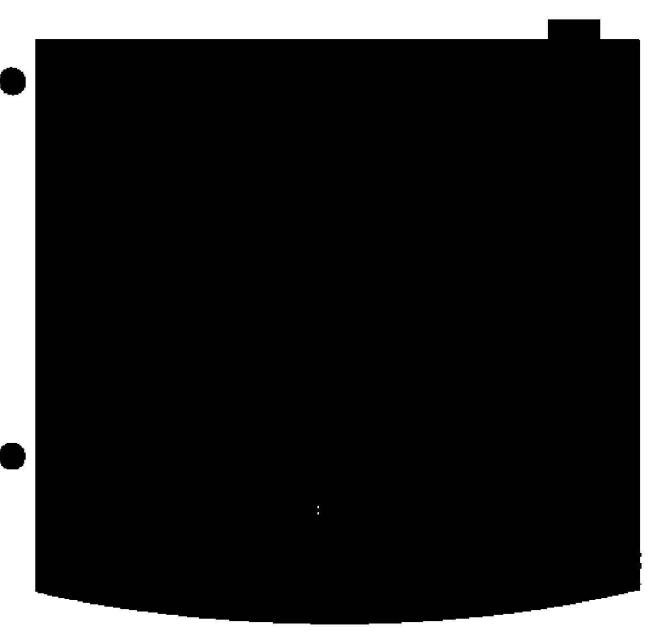
1,674,177 Cubic Feet 62,007 Cubic Yards

PROTECTIVE ORDER

	7045 Daisy	6950 Orchid	6873 E Daisy	6823 E Daisy	6/42 E Daisy	4868 Glacier	5069 Pengra	6705 M.R.	5091/5111	6765 M.R.	6870 M.R.	6925 M.R.
	E William Grandwick	197 CE CORD FOR DECIMAL DATE OF CORD AND AND AND AND AND AND AND AND AND AN			į Į		2003	8	Bluebell			
	20.09%	16.29%	58.00%	15.71%	24.05%	10.88%	27.51%	35.86%	29.44%	35.06%	4.00%	7.87%
	48.40%	33.25%	64.69%	24.40%	14.46%	15.48%	19.01%	68.99%	10.68%	46.91%	30.00%	53.97%
	13.66%	46.10%	8.99%	17.03%	13.58%	80.09%		4.95%	10.53%	22.07%	24.53%	
		56.72%			9.77%	21.13%				23.52%	11.89%	
		16.16%			34.34%			i Managarangan au		The Handelstone	28.89%	
			A COUNTRY WORLD								17.30%	
AVG Gypsum % by Volume	27.38%	33.70%	43.89%	19.05%	19.24%	31.90%	23.26%	36.60%	16.88%	31.89%	19.44%	30.92%
Depth of Fill (ft)	12.0	22.0	15.0	10,0	26.0	17.C	11.5	15.0	15.0	25.3	25.0	8.0
Avg Gypsum % x Depth of Fill	3.29	7.41	6.58	1,90	5.00	5.42	2.67	5.49	2,53	8.07	4.86	2.47

## APPENDIX F

## TONN R&M GYPSUM PRODUCTION RECORDS MEMO



Conducted August 2020 - January 2024 Perpared by: Nick Anderson

TONN REMAINS SOLD Falls, 50



CONFIDENTIAL SUBJECT TO PROTECTIVE ORDER

In August of 2020, Nick Anderson (now with Tonn R&M) was retained by Fox Rothschild to assist in the geophysical testing, research, and investigation of the history of gypsum mining in the area that is now the residential development known as Hideaway Hills, Blackhawk, South Dakota. The initial scope of the contract was for Nick Anderson to assist INTEC corporation by conducting 3D laser scanning of the subsurface mine and surrounding neighborhood using a Leica RTC360 3D Laser Scanner. In October of 2020, Nick Anderson's retention was expanded to thoroughly research the entire history of mining operations that occurred in Hideaway Hills. This included reviewing ownership of the land, researching who was mining gypsum and when, obtaining historical aerial imagery and documents, and creating demonstrative exhibits via GIS applications. In February 2021, Nick Anderson, on behalf of Fox Rothschild, contacted Western Engineers & Geologists, Inc. (now Western EGI) to perform research, data collection, and analysis of the condition of the historic mines and act as expert witness for Fox Rothschild.

In early 2024, Western EGI requested that Nick Anderson provide them with a summary of his findings relating to the tonnage and volume of material that was mined in Hideaway Hills along with any concerns about the accuracy and reliability of the information uncovered. A summary of those findings is included within. As this is an ongoing litigation matter, conclusions and findings are subject to change as additional information is uncovered or discovered.

In researching mining operations at Hideaway Hills, it is clear that the historical record is marred by a lack of comprehensive documentation, leaving significant gaps in our understanding of key events. Despite these challenges, mining operations can be categorized into three distinct eras: the early 20th century through the great depression, the post-war era extending into the mideentury, and finally, the 1980s. Each era presents its own unique complexities and deficiencies that demand acknowledgment before delving into a comprehensive understanding of the history of mining at Hideaway Hills. Further, it is important to acknowledge the impact that the completion of the State Centent Plant in 1924 had on mining operations in the region.

The Federal Government addresses the foundational shortcomings best in two separate reports: The Black Hills Mineral Atlas, published by the U.S Bureau of Mines Staff, Region V. Part 1: July 1954, Part 2: May 1955, and Hazardous Surface Openings to Abandoned Underground Mines: Black Hills National Forest, prepared for the United States Department of Interior by NUS Corporation Energy Systems Division under contract number: J0295011 in 1979.

The Bureau of Mines found that "much information regarding early operations is extremely meager or missing entirely. Data on more recent operations are sometimes equally difficult to obtain.\(^1\)" The Bureau also found, "Production figures for individual mines are difficult to obtain and are frequently incomplete and unreliable.\(^2\)" Twenty years later in 1979, NUS, through its research in the Lawrence, Pennington, and Custer Counties, found that the local governmental documentation and overall organization of the legal records are, "to say the least, confusing. Tracing legal ownership was a very complex drawn out search which oftentimes was misleading.\(^3\)" They further found that the, "filing and documentary systems are grossly inefficient within the county courthouses of the Black Hills area.\(^4\)"

Perhaps most problematic is NUS's conclusions relating to The South Dakota Mine Inspectors Annual Reports. They were determined to be, "of little help in determining site specific

production. Total production figures as displayed in the report were lumped into a cumulative category and could not be isolated.⁵"

With these foundational shortcomings acknowledged, it remains possible to piece together some aspects of the mining history dating back to the early 1900's at Hideaway Hills.

Marking the initial period of mining in Hideaway Hills, numerous records extensively document that the Dakota Plaster Company (Dakota Plaster) mined Hideaway Hills from early 1911 until 1930 for gypsum. Dakota Plaster first worked the site as an open pit, then by the underground room and pillar method, then again as an open pit.⁶ As noted above the Annual Reports of the State Mine Inspector for the State of South Dakota were not always helpful in determining if the gypsum mine was taken from the surface or subsurface. In 1911 it is likely surface mining took place but there is no tonnage number available.⁷ There is no tonnage numbers available for 1912 and in 1913⁸ and 1914⁹ it is unclear where the gypsum was mined from. It's not until 1915 that a confirmed 9105 tons¹⁰ was removed from the underground mine. In 1916¹¹, it is unclear where the gypsum was mined from the surface. It is not until 1922 that gypsum was mined from the underground mine¹⁷ again. In 1923¹⁸, 1924¹⁹, 1925²⁰ it is again unclear where the gypsum was being mined from, and in 1926 no tonnage was reported.

In 1924 the South Dakota Cement Plant became a reality, and the first batch was poured in December of that year. ²¹ As noted in the 34th report of the State Mine Inspector for the State of South Dakota in 1924, tonnage production was down at the Black Hawk quarry then still operated by Dakota Plaster. That year Dakota Plaster took out a contract to supply the State Cement Plant with gypsum and the mine would continue to stay in operation all year. ²² As mentioned above, there was no tonnage figures reported in 1926 and no records exist of the amount of gypsum mined after 1926 as the State Legislature did not appropriate monies for the State Mine Inspector and thus the office was vacant from 1927-1936. ²³ Moreover it is important to highlight here that a state report again notes, "…as accurate figures are not available. Such sources as Mineral Resources and reports of the State Mine Inspector's Office fail to cover every year. ²⁴"

Records do suggest significantly higher production at Dakota Plaster mine during these unrecorded years as evidenced by a considerable decline in gypsum production across South Dakota after the Dakota Plaster Plant's sale to the United States Gypsum Company (US Gypsum), leading to its closure in 1931.²⁵ This period, spanning from 1931 through the wartime era into 1945, witnessed US Gypsum emerging as the exclusive gypsum producer in the state. The company operated primarily from its Piedmont plant but also mined various smaller, inadequately documented sites, notably in the vicinity of Tilford.²⁶

Hideaway Hills likely wasn't worked again until 1946 when Morris Adelstein of Northwest Engineering heard that cement plants could not obtain enough gypsum to meet demand, so he received permission to take gypsum from the old Dakota Plaster mine through his subsidiary company, Hills Material.²⁷ The deposit at the site, though having been worked extensively, was still considered to be of economic value, and covered a "goodly" portion of the property.²⁸ Thanks to the keen eye of Vernon Davis, Mining Engineer at the US Bureau of Mines, we are

able to get semi-reliable production numbers from this site despite a letter from the South Dakota Inspector of Mines noting that figures are not to be published separately. ²⁹ In 1946 the Northwestern Engineering Co. shipped 8,700 tons of gypsum to cement industries in Iowa and sold over 2,000 tons of gypsum to the Cement Plant at Rapid City. ³⁰ In 1945 the State Cement Plant's stockpile of gypsum was running low, and the Plant planned to start mining its own gypsum in the future. ³¹ Combined with the figures above, the State Cement Plant also mined 5067 tons from section 16, Township 2 North, Range 7 East marking the largest amount of gypsum produced in one year. ³²

Again, foundational shortcomings are still found as highlighted by a 1947 US Bureau of Mines Field Office Report³³ that reveals that the 1946 production figures compiled by the Bureau during their investigation did not align with the figures submitted by the State Mine Inspector. As noted above, in 1946, Northwestern Engineering Co. mined and dispatched 8,703 tons of gypsum to Mason City, lowa, while simultaneously mining and shipping 2,066 tons to the State Cement Plant. U.S. Gypsum Co. mined 2,354 tons of gypsum, and the State Cement Plant independently mined 3,376 tons, culminating in a total of 16,499 tons. However, the figure published in the 44th Annual Report of the State Mine Inspector for the State of South Dakota contradicts this total. Clair Smith, State Mine Inspector, had submitted the 7,354-tonnage figure to the Governor of South Dakota on October 11th, 1947. Furthermore, the State Cement Plant is not listed as a gypsum producer in the summary section of the 44th Annual Report. Considering the information exchanged in these letters, there is uncertainty about how the gypsum tonnage consumption was calculated for the 44th Annual Report.

The US Gypsum company shuttered its plant in 1948³⁴, and records from 1952 indicate that from 1948 onward, the exclusive miner of gypsum in the State of South Dakota was the State Cement Plant. ³⁵ By analyzing records from the State Mine Inspector and Mineral Yearbooks from the US Bureau of Mines it's possible to infer that all gypsum mined in South Dakota from 1948 onward was exclusively for the Cement Plant. Nevertheless, the historical account of mining activities at Hideaway Hills becomes obscure from this point until 1985.

Aerial imagery depicting the mine site suggests active operations during the 1950s and 1960s. Moreover, traces of Presplit Blasting, a technique not developed until the late 1950s or early 1960s, are evident within the underground mine. Intriguingly, plat records from 1958 document Edward Stensaas's sale of land strips over Lot 1 in the NE/4 of the NW/4 of Section 8 (0.74 acres) and Lot 3 of the NW/4 of NE/4 of Section 8 (1.28 acres) to the State of South Dakota. Notably situated on the border between Meade and Pennington Counties, Hideaway Hills has experienced occasional confusion among inspectors regarding its county affiliation. Despite these subtle nuances and inferences, no concrete evidence regarding tonnage figures from Hideaway Hills between 1948 and 1984 has surfaced. Nevertheless, it's reasonable to conclude that mining activities likely persisted during this period. Of particular interest however is a remark from the property owner in 1985 who noted that there is also an area of gypsum near test holes #23 and #2736 that has been drilled and shot but was never removed.

In 1985, the State Cement Plant acquired Hideaway Hills and initiated gypsum mining operations under Permit 424. Following state regulations implemented in 1990, mining activities continued under License 89-383 until early 1992. Prior to commencing mining operations, a

comprehensive study was undertaken, involving the drilling of 35 test holes to assess gypsum deposits. Based on the findings of this testing and study, the State initiated operations at a substantial surface mine located in the southern boundary of the permitted area. Subsequently, the permit was amended to encompass an additional small area, specifically the Pengra property, situated further to the south.

Between 1986 and early 1992, the Cement Plant consistently submitted notices of intent to continue mining and annual reports. A thorough analysis of these records reveals that the Cement Plant actively mined 16.5 acres during this period and reclaimed 32 acres. Notably, the removal of 135,227.86 tons of gypsum and 140,000 tons of overburden resulted in the disturbance of a total of 275,227.86 tons of material—a significant figure as it marks the first recorded instance of overburden disturbance at the mine site. Concurrently, the South Dakota Department of the Environment and Natural Resources conducted inspections in 1985, 1986, 1989, and 1991. However, relying solely on these records would present an incomplete picture of mining activities during this timeframe. A detailed examination of inspection reports and annual reports underscores the challenge of correlating them, as the legal land description becomes crucial in establishing their reference to the same mine.

Through this research, both I and other researchers have reached the consensus that, even with more extensive investigations, it is likely to be challenging, if not impossible, to ascertain the true scope of mining activity at Hideaway Hills, let alone precise tonnage figures. The historical record is riddled with inconsistencies and gaps, offering only a starting point and providing a limited glimpse into different eras at Hideaway Hills. However, these existing records fall short of narrating the complete story.

Signature:	Nas	Date: 1/30/2024
Digitaluic.		

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² Bureau of Mines, BIIMA Part 1, 5.

³ Stinnett, L. A., Lawton, M. R., Jennings, W. F., NUS Corporation, & United States. (1979). *Hazardous Surface Openings to Ahandoned Underground Mines, Black Hills National Forest* (OCLC Number: 7114985). Rockville, MD: The Division, 12.

⁴ NUS, Hazardous Surface Openings, 13.

⁵ NUS, Hazardous Surface Openings, 14.

⁶ Lincoln, Francis Joseph, Professor of Mining, South Dakota State School of Mines 1927, Rock Products Industry of South Dakota, Parts 1 & 2.

⁷ Ehle, C. G. (1911). Gypsum Deposits and the Succo Industry in the Black Hills: A Thesis submitted to the Faculty of the South Dakota School of Mines.

^{3 24}th Annual Report of the State Mine Inspector for the State of South Dakota, 1913, 11.

⁹ 25th Annual Report of the State Mine Inspector for the State of South Dakota, 1914, 18.

^{10 26}th Annual Report of the State Mine Inspector for the State of South Dakota, 1915, 13.

^{11 27}th Annual Report of the State Mine Inspector for the State of South Dakota, 1916, 9.

^{12 28}th Annual Report of the State Mine Inspector for the State of South Dakota, 1917, 20.

^{13 29}th Annual Report of the State Mine Inspector for the State of South Dakota, 1918. 14.

^{13 30}th Annual Report of the State Mine Inspector for the State of South Dakota, 1919. 13.

 ³⁰th Annual Report of the State Mine Inspector for the State of South Dakota, 1920, 13.
 31st Annual Report of the State Mine Inspector for the State of South Dakota, 1921, 7.

Annual Report of the State Mine Inspector for the State of South Dakota, 1921, 7.
 32nd Annual Report of the State Mine Inspector for the State of South Dakota, 1922, 8.

^{18 33}rd Annual Report of the State Mine Inspector for the State of South Dakota. 1923. 5.

^{19 34}th Annual Report of the State Mine Inspector for the State of South Dakota, 1924. 4.

^{20 35}th Annual Report of the State Mine Inspector for the State of South Dakota, 1925, 4.

²¹ Twenty Years of Progress and Successful Operations, 1958, 25.

²² "Dakota Plaster Co." Weekly Pioneer Times (Deadwood, SD), June 18, 1925,

^{23 42}nd Annual Report of the State Mine Inspector for the State of South Dakota, 1944, 4.

²⁴ Mineral Resource Committee, South Dakota State Planning Board. 1936. Portland Cement, Gypsum, and Lime Industries in South Dakota: A Preliminary Report. Brookings. SD: Central Office.

²⁸ Lincoln, Francis Church, et al. "The Mining Industry of South Dakota," South Dakota School of Mines Bulletin, No. 17. Department of Mining, February 1937, 26.

²⁶ U.S. Bureau of Mines, BHM4 Part 1. 52-53.

²⁷ Morrell, Warren. "Thru the Hills." Rapid City Journal, October 21, 1946.

²⁸ Mineral Resource Committee, South Dakota State Planning Board. 1936. Portland Cement, Gypsum, and Lime Industries in South Dakota: A Preliminary Report. Brookings, SD; Central Office, 51.

²⁹ Smith, Clair. Letter to Vernon Davis, Mining Engineer at U.S. Bureau of Mines. November 12, 1947.

Davis, Vernon, Letter to Clair Smith, SD Inspector of Mines, November 17, 1947.

^{31 43}rd Annual Report of the Inspector of Mines for the Year. 1945, 13.

¹² Davis, Vernon. Letter to Clair Smith, SD Inspector of Mines. November 17, 1947.

¹³ Pesonen, Paul E. "Field Office Report, Rapid City." US Bureau of Mines, November 14, 1947.

^{34 46}th Annual Report of the State Mine Inspector for the State of South Dakota, 1948, 3.

⁵⁰th Annual Report of the State Mine Inspector for the State of South Dakota, 1952, 15.

³⁶ "Stensass Gypsum Study Meade County, South Dakota – January 1985" prepared for the South Dakota State Cement Plant by HOSKINS-WESTERN-SONDEREGGER, INC.

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STATE OF SOUTH DAKOTA
                                                    IN CIRCUIT COURT
 1
 2
     COUNTY OF MEADE
                                             FOURTH JUDICIAL CIRCUIT
 3
      ANDREW MORSE and JOHN AND
                                             46CIV20-000295
      EMILY CLARKE, for themselves
 4
      and on behalf of all
      similarly situated
                                             Deposition of:
 5
      individuals,
 6
                                             BYRON KEITH KUCHENBECKER
                   Plaintiffs,
      VS.
 8
      STATE OF SOUTH DAKOTA,
 9
      and/or THE SOUTH DAKOTA
      COMMISSION OF SCHOOL AND
10
      PUBLIC LANDS, as successors
      of the SOUTH DAKOTA CEMENT
11
      PLANT COMM_SSION, and the
      SOUTH DAKCTA CEMENT PLANT
12
      TRUST,
13
                   Defendants.
14
15
      THEODORE ADAMSON, et. al.
                                             46CIV22-000033
16
                   Plaintiffs,
                                             Deposition of:
17
      VS.
                                             BYRON KEITH KUCHENBECKER
18
      STATE OF SOUTH DAKOTA,
      and/or THE SOUTH DAKOTA
19
      COMMISSION OF SCHOOL AND
      PUBLIC LANDS, as successors of the SOUTH DAKOTA CEMENT
20
      PLANT COMMISSION, and the
21
      SOUTH DAKCTA CEMENT PLANT
      TRUST,
22
                   Defendants.
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24
                        October 25, 2023, at 9:00 a.m.
             DATE:
25
                                                                46C IV 20-000295
                                                                PLAINTIFFS'
                                                               MSJ EXHIBITS
                  Carolyn M. Harkins, RPR (605)381-5427
                                                                   36
                         www.harkinsreporting.com
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8		
1	ð	Go Jacks. I, too, lived there, I think along with
2		Bob.
3		So did you graduate from SDSU?
4	A	Yes, I did.
5	Q	What was your degree in?
6	A	Range management.
7	ð	Okay. Did you stay in Hansen Hall when you were
8		there?
9	Ą	No. I had friends there.
10	Q	Oh.
11	Λ	I stayed in Scobey.
12	ð	Oh, Scobey. Okay. Was the Hansen Hall the ag dorm
13		back then as well?
14	A	Yes.
15	Q	Okay. They've changed it since then. Now I think
16		Brown is the ag dorm.
17	A	Oh, is that right?
18	Q	That's right.
19		So once you graduated from college, what did you
20		do? What was your profession?
21	A	I worked for the West River Conservancy Sub-District.
22	Q	Okay. And where was that located?
23	A	Out of Kadoka and then they moved it to Philip.
24	Q	Okay. And what did you do there?
25	A	It was a water conservatory subdistrict entity of the

1		State and I managed it.
2	Q	Okay. And what did that entail?
3	A	We were pushing rural water systems, helping people
4		with irrigation systems. At the time that I managed
5		that, ETSI pipeline was involved, so ccal slurry
6		pipeline that they were going to provide water to the
7		slurry coal, but that was closed.
8	Ω	Okay.
9	A	So, basically, water conservancy.
10	Q	Okay. Now, I apologize. I might have completely
11		missed it. What was your degree in again?
12	A	Range management.
13	Q	All right. What does that typically entail?
14	A	The degree?
15	Q	Yes.
16	A	A significant amount of schooling in scils, in native
17		grasses, grazing. You could come out with a soil
18		conservation service, work Fcrest Service. Those are
19		a couple of big entities that hired people with that
20		degree.
21	Q	Okay. Now, when you were working in Kadoka, what
22		made you decide to stop with the conservancy program
23		that you were working in?
24	A	We built a house in Philip and I built most of it
25		myself. And so we wanted to get back to Philip. So

1		
1		makes sense?
2		MR. CROOKS: Sort of.
3	A	So electrical, concrete portion, plumbing,
4		Sheetrocking, tape and texturing was all subbed out.
5	Q	Okay. So you just so did you do framing then
6		essentially?
7	A	Framing it.
8	Q	Okay.
9	A	Finish.
10	Q	Okay. So you liked it. How did you get into the
11		prefab home business?
12	A	Well, I ordered the house from Midwestern Homes and I
13		liked the way that they constructed them and they
14		were panelized and mine went up real well. And I
15		heard that other people were looking for homes in the
16		Philip area, so I didn't turn into a general
17		contractor.
18	Q	Okay. And did you work exclusively with Midwestern
19		Homes?
20	A	For the first two years.
21	Q	Okay. Did Midwestern Homes eventually turn into
22		Ideal Homes?
23	А	No.
24	ð	Okay. Because at some point you started working for
25		Ideal Homes, too, correct?

1.	A	Yes.
2	Õ	Okay. So tell me I'm getting ahead of myself so I
3		apclogize.
4		So you were working for Midwestern Homes in
5		Philip. Were you just kind of an authorized dealer,
6		is that how that was working?
7	A	I was an authorized dealer, yes.
8	Q	Okay. How many and those are prefab nomes. Tell
9		me what a prefab home is, just for the record.
10	Ā	Prefab homes, it's when they build exterior walls and
11		panels. Midwestern Homes would place have the
12		windows in place and some of the siding in place.
13		And you would build the subfloor and then order the
14		home in and they'd set it with cranes. So in one day
15		we could take a normal-sized house and have it pretty
16		much weather tight. The rafters would come. You
17		could seat it within a week, it was weather tight,
18		finishes, exterior finishes done and ready for
19		subcontractors.
20	Q	Okay. How does a prefab home differ from a mobile
21		home?
22	$\Lambda$	A mobile home comes in on wheels where a prefab comes
23		in on a semi but with a crane.
24	Ď	Okay. So approximately how many of those homes in
25		Philip did you when I say general contractor work

7		
1.		for?
2	A	You know, it's been a long time, but I think probably
3		averaged five homes a year.
4	Q	Okay. For about how many years?
5	A	Maybe ten years.
6	Q	Okay. Now, when you were doing those homes, did you
7		do any of the dirt work for those homes at
8	A	No.
9	Q	all?
10	A	No.
11	Q	So you subbed those out?
12	A	Thal's correct.
13	Q	Okay. Jid you do any of the concrete work for those
14		homes?
15	A	No.
16	Q	Okay. And that was all subbed out?
17	А	Yes.
18	Q	Okay. So what made you want to leave Philip them?
19	A	Opportunity. Tt's a small community and there was
20		more opportunity in a larger community.
21	Q	Okay. And so approximately when did you leave
22		Philip?
23	A	1989, I believe.
24	Q	Okay. And then where did you move?
25	А	Moved out to Rapid City.

	_	
1		and the State had sold it to him?
2	A	That's correct.
3	Q	Okay. Jid you have any conversations, any follow-up
4		conversations with him about the mining?
5	A	No.
6	Q	Did you have any concern about the fact that there
7		had been mining?
8	A	Yes. I went to the State to find out if there was
9		any information regarding the mining.
10	Q	Okay. So the State is kind of a broad term.
11		You went to the State to find out about
12		information. Where did you go to do that?
13	A	The State Cement Plant.
14	Q	Okay.
15	A	Here in Rapic.
16	Q	Okay. And what did you do with regard to talking to
17		the State Cement Plant?
18	A	Pardon? My hearing is kind of I don't have my
19		hearing aids and both went bad. And they're Costco
20		hearing aids so I haven't been to Costco to get them
21		fixed.
22		MR. MORRIS: You can borrow mine.
23		THE WITNESS: Yeah, Bob, here.
24		MR. CROOKS: Just give him one.
25		THE WITNESS: Yeah, there you go.

1	ę.	
1	Q	So you said you went to the State Cement Plant to
2		find out about the property?
3	A	Yes. To get information, yes.
4	Q	What information did you receive from the State
5		Cement Plant?
6	A	The only information that I received is that they
7		didn't have any records here and that the land had
8		been reclaimed and that they thought that the mining
9		asked them about other mining and they said that
10		they thought those were pushed in, replaimed, but
11		there was no paperwork
12	Õ	Okay.
13	A	involved.
14	Q	Okay. So did you do anything after then to do your
15		own exploration with regard to the mining?
16	A	I did before purchasing the property, I did get
17		permission to go out and dig holes trying to find out
18		whether there was any cyp left or if there was
19		mining, underground mining that might expose it, you
20		know, but to see what how deep the gyp was, so I
21		did that.
22	Õ	Okay. Where did you dig holes at?
23	А	Up all over the property. I don't know how to
24		explain that, but I probably dug 10, 1c noles.
25	Q	Okay. How did you dig hose holes?

1	ř	
1	77	tati i li se becalibrate
1	A	With a backhoe.
2	Ď	Okay. How big is a backhoe?
3	A	I think it was a 580 backhoe
4	Q	Okay.
5	A	size.
6	Q	Okay. So how deep did you go down, do you think?
7	А	As far as I could go. Probably 15 feet maybe.
8	Q	Okay. And you just kind of like did you have any
9		order by which you went and dug those holes?
10	A	No.
11	Q	Okay. What did you find when you dug the holes?
12	А	No gypsum.
13	Q	Okay. What did you find?
14	A	Just Spearfish shale after you got through the
15		topsoil.
16	Q	How thick was the topsoil?
17	А	Typical four to six inches.
18	Q	Okay. And then it was Spearfish shale thereafter?
19	A	That's correct.
20	Q	And you didn't notice any gypsum did when you those
21		holes?
22	Λ	No.
23	Q	Okay. Now, I'm going to pull out a map later, so I
24		might have you draw where you recal_ those ho_es, if
25		you do, but remind me to put a pin in that and ask

	9	
1		that.
2		So other than that, the digging of the holes, did
3		you do any other type of like geotechnical work,
4		anything like that to determine whether mining would
5		impact, I guess what, ultimately, you wanted to do
6		which was develop?
7	A	No. I did some research with the Soil Conservation
8		Service in Meade County to see what type of soils
9		there was, but that's the extent.
10	Q	Okay. And what do you recall that research revealed?
11	Λ	That there was no expansive type soils that was
12		present. It was primarily the red Spearfish shale
13		that composed most of the area from here to from
14		Rapid City to Spearfish or Rapid City to Sturgis.
15	Q	Okay. By expansive soil, what do you mean? What
16		does that mean to you?
17	A	Expansive soil is the one that will contract and
18		expand.
19	Q	What's a typical type of expansive soil just for my
20		own edification?
21	A	Montmorillonite clay. A clay type soil.
22		MR. CROOKS: Texas clay.
23		THE WITNESS: Hmm?
24		MR. CROOKS: The whole state of Texas
25		THE WITNESS: Yeah.

1		
1	A	No.
2	Q	Okay. What about is gracing and scraping
3		different?
4	A	They're the same.
5	Q	Okay. Okay. What goes into what went into the
6		grading of Hideaway Hills?
7	A	They determined the cut and the fill necessary to
8		provide streets that drains properly and buildable
9		lots.
10	Q	Okay. Did you say you determined the cut and the
11		fill that's required?
12	А	Yes.
13	Q	Okay. Did you bring in any fill into the
14		development?
15	A	No.
16	Q	Okay. What did you do with the topsoil that was in
17		the development?
18	A	We scraped it off and put it in piles.
19	Q	Okay. Where d'd you stack the topsoil piles?
20	A	If I recall, it was on the south end we had one and
21		on the north end we had one.
22	Q	Okay. And you just kind of started in the middle and
23		pushed one pile one way and the other pile the other
24		way, is that kind of
25	A	Go over and drop your load in one area and it stays

1	-0	
1		your left. East is to your right.
2		MR. CROOKS: Thank you.
3	A	Okay.
4	Q	So do you see that?
5	A	Can you tell me the question again? I'm sorry. I
6		was distracted.
7	ð	Sorry. I was just asking if you kind of see where I
8		was referring to, which is that southwestern portion
9		where there's kind of some exposed area and it looks
10		like there might be a house there?
11	Λ	Yes, I see that.
12	Õ	Yeah. So is that was that at that time higher in
13		elevation or lower in elevation than the rest of the
14		area?
15	A	I believe that was higher.
16	Q	Okay. And did you when you were developing this
17		property, did you you ran into gypsum, correct?
18	A	Yes.
19	Q	And did you have to do any blasting?
20	A	I think I believe we blasted a small portion up
21		here (indicating) on this higher elevation.
22	Õ	And you said up here on this higher elevation, but
23		you're referring to where I was discussing before,
24		the southwestern portion where there used to be a
25		house?

8	Î	
1	A	This area right here (indicating).
2	Q	Yeah. So just above do you know where Pengras
3	Σ.	lived?
	W25	
4	A	Um-hmm.
5	Q	Just above where Pengras lived on the map?
6	A	I don't know whether we blasted there.
7	ð	Where did you blast then that you recall?
8	A	I'm thirking it was up here (indicating), but I'm not
9		sure.
10	Q	And
11	Λ	I know we blasted, we did a lot of blasting in
12		Stagebarn and I'm confused as to whether we did it
13		here or at Stagebarn.
14	Q	Okay.
15	A	But I believe we did some blasting in this area here
16		(indicating).
17	Q	Okay. And by how about this, let's just have you
18		circle where you blasted. Let's take the red pen and
19		where you recall blasting, if you could circle that
20		just so we can make a good record here.
21		MR. MESHBESHER: Keith, if you're confused
22	Λ	1 am confused.
23		MR. MESHBESHER: here or at Stagebarn, just
24		say that.
25	A	I was looking when we blasted at Stagebarn, I know

1		that we were close enough to a school at Black Hawk
2		School District. So I don't know whether I did any
3		blasting in this. I don't think I did now.
4	Q	So do you recall being deposed in the Reed lawsuit?
5	A	Yes.
6	Q	And do you recall testifying that you blasted in the
7		Hideaway Hills area then?
8	A	Well, if $$ did, my recollection was probably better
9		then than it is now.
10	Q	Okay.
11	Λ	And if I said _ blasted, I did.
12	Q	Okay. And just to confirm, you did say you blasted
13		back
14	A	Yes.
15	Q	then?
16	A	Yes.
17	Q	So now based on your recollection, I know it's
18		unclear right now, but based on your recollection,
19		where do you think you would have blasted? And if
20		you can circle
21		MR. MESHBESHER: Keith, hold on. Don't draw if
22		you actually don't remember right now where it is you
23		blasted. So if you remember right now where it is
24		you blasted in the Hideaway Hills subdivision, go
25		ahead and mark that, but if you don't, don't do it.

20		
1.	A	I'm not I don't know Ior sure.
2	Q	I'll lock for that real quick. So you ran into
3		gypsum at some point in Hideaway Hills, is that
4		correct?
5	A	Yes.
6	Q	Okay.
7	A	And when you say Hideaway Hills, are you talking
8		about the Pergra property also?
9	Q	Yes.
10	A	Okay.
11	Q	1'm talking about
12	A	There was some gyp up here on the backside of
13		Pengras.
14	Q	Okay. Can you take your red marker and mark were you
15		encountered gypsum at that you recall?
16	A	(The witness complied.)
17	Q	Okay. And typically when you encounter gypsum, do
18		you have to is it easy to blast out when you
19		encounter jt?
20	A	Depends on how difficult the gypsum is.
21	Q	Okay. What do you recall about the gypsum that you
22		found in the area you just circled?
23	A	I think we built the road without blasting.
24	Q	Okay. How did you get the gypsum out?
25	A	They built on top of it.
	1	

8	2	
1	Q	You built on top of the gypsum there?
2	A	Um-hmm.
З	Q	Okay. Okay. So I want you to go into page 2 of
4		Exhibit 2. Does this adequately, I guess, summarize
5		kind of where you graded?
6	A	Um-hmm.
7	ð	Okay.
8		MR. MESHBESHER: Is that a yes?
9	A	Yes.
10	Q	So looking at this and going back to your
11		recollection, do you know which way you started,
12		which area you started grading and which area you
13		ended grading at?
14	A	No. I can't remember.
15	Q	No. Okay. So I want you to kind of compare between
16		page 1 and page 2. And you can feel free to take the
17		paperclip off and show them side by side. In terms
18		of, I guess, leveling the area, you previously
19		discussed that you would have one slope in one spot
20		and a low spot in another spot and you kind of moved
21		everything around to make it more even.
22		Looking at this, do you recall where you added
23		fill in and took fill out, you know, based on the
24		correct contour of 2002 versus 1998?
25	A	No, I can't.

1		MR. CROOKS: Objection, form.
2	A	I don't know, so I can't remember.
3	Q	Okay. Okay. So I might re-ask that after I get into
4		this. How does that sound, to refresh your
5		recollection?
6		Do you recall that in 2004 your scraper wheel
7		fell into a cavern? Do you recall that?
8	Ą	Yes.
9	Q	Okay. Now, based on looking at 2004 map, can you
10		take the blue pen and just draw a circle where you
11		recall the cavern being located?
12	А	(The witness complied.)
13	Õ	Okay. And what do you recall about that cavern?
14		Tell me about when it fell in.
15	A	I was grading the street and the front tire of the
16		scraper fell into the hole. Stopped me immediately.
17		And then we I went and got ahold of John Ogden and
18		told him what I and Ogden was working with me.
19	Q	John Ogden was working with you?
20	A	Yes. And we backed the scraper out of the hole and
21		that was it. We looked down into it.
22	Q	How big do you recall the hole was?
23	А	It was big enough half the size of this table,
24		which wcu_d be maybe, what, a scraper tire dropped
25		down so it was probably two-by-six, three foot by six

	7	
1		or something like that.
2	Ď	Okay. Could you see into the hole then?
3	A	Yes.
4	Q	Okay. Tell me what you could see below the hole.
5	A	There was a column of dirt that come up. That was
6		the first thing you seen. And then you can see that
7		there was that it headed, which would have been
8		northeast towards the interstate.
9	Q	Okay. Now, going back to the size of the hole, you
10		said it was about the size of this table.
11		Do you mean by width like between you and I or
12		between Carolyn and David?
13		MR. MESHBESHER: Just an objection. I think that
14		misstates his testimony. I believe he said half the
15		size of this table.
16	A	Half the size of this table.
17	Q	Okay.
18	A	But not as wide. And the scraper tires front
19		scraper tire. But about half the size of that.
20		That's I think if I said four-by-six.
21	Q	Okay.
22	$I_{\Lambda}$	it would probably be pretty close to what the size
23		of the hole that caved in.
24	Q	Okay. And that's what I was getting to. I the
25		record doesn't know the size of the table so that's

1	A	I know we visited sometime, but maybe not at that
2		point.
3	Q	Okay. All right. So they all came out and looked at
4		it. Now, I'm going to start with Doug Sperlich.
5		Were you with Doug Sperlich when he came out and
6		locked at it?
7	A	I don't recall.
8	Q	Okay. Do you recall any conversations that you had
9		with Doug Sperlich about the hole, cavern?
10	A	I know we visited about it and tried to figure but a
11		solution to it.
12	Q.	Okay.
13	A	He is an engineer. He was the one that I was relying
14		on on coming up with a solution.
15	Q	Sure.
16	A	And I'm not sure I was out there when Doug Sperlich
17		was there, but I know he was out.
18	Q	Okay.
19	A	Jooked at it.
20	Q	So you guys came up. Did you and Doug come up with a
21		solution then thereafter?
22	Λ	Doug did.
23	Q	Okay. And what was Doug's proposed solution?
24	A	He looked at it, says, We'll just fill it and compact
25		it back.

1		
1	А	This one (indicating)?
2	Q	Sorry. I'm going back to page 1.
3	A	Oh, okay.
4	Q	I'm kind of scatterbrained. I apologize.
5	A	No. That's no problem.
6		MR. MESHBESHER: Ask him again maybe.
7	Q	Certainly. Can you just kind of tell me what page 1
8		is?
9	Ą	Page 1 is a cover letter.
10	Q	Okay. And does it say how many total borings and I'm
11		going to call them AET because that's how I know
12		them. Do you understand them as AET?
13	A	What's AET?
14	Q	Or do you prefer calling them American?
15	A	Oh. Oh. AET is fine.
16	Q	Okay. It looks like they did ten total borings?
17	A	That's correct.
18	Q	And they did it on April 1/th and 15th, 2001?
19	A	Yes.
20	Q	Okay. And approximately how long after the cavern
21		was exposed do you recall them coming cut and doing
22		that? Was it weeks? Months?
23	A	I think it was weeks.
24	Q	Okay. So, in other words, the grading was probably
25		sometime when you fell in was probably sometime in

1		late March, early April or was it maybe earlier than
2		March, if you recall?
3		MR. CROOKS: Objection, form.
4	A	I don't recall.
5	Q	Okay. And it looks like they drilled 20 feet?
6	A	Ten holes 20 foot deep.
7	Q	Ten holes 20 foot deep, okay. And it also looks like
8		they didn't find any voids, is that
9	A	That's correct.
10	Q	Okay. But then it says it's understood the
11		possibility of voids outside the boring locations is
12		still possible, right?
13	A	Yes.
14	Q	Okay. Did that lead to any concern to you? Did you
15		suggest to do additional holes maybe?
16	A	I suggested we do some additional holes. I asked
17		him, I said, If it's your property, what would you
18		do? And he says he felt that they had an adequate
19		number of holes necessary. His comment was you could
20		drill holes forever, but the location where the holes
21		were drilled, he was satisfied and so was I that
22		there wasn't any cavities.
23	Q	Okay.
24	А	Or any problem to abancon.
25	Q	And by he, do you mean Robert Temme?

1		the six voids?
2	А	Six voids, no.
3		MR. CROOKS: Objection, form.
4	Q	I do want to go back to the 2004 void. The one that
5		involved the water and the sewer trenching, what type
6		of fill was brought in to fill and compact that void
7		after it was encased in concrete?
8	Ą	It was the same fill that it was on site that they
9		used for all of it, fill. They didn't bring any
10		other fill that I knew of other than what was on
11		site.
12	ð	Sure. So that Spearfish shale was kind of just
13	A	Yes.
14	Q	That was existing beyond there.
15		And I believe I already asked this, but my
16		co-counsel is asking me to make sure. With regard to
17		the first void that you encountered where your wheel
18		fell in, what kind of fill was brought in to fill
19		that?
20	Ą	That was the same fill. There was nothing brought
21		in, fill. Material that was taken from the site.
22	Q	Okay.
23		MR. MORRIS: And co-counsel will keep his mouth
24		shut from now on.
25		MR. CROOKS: Doubtful.

2		
1		you've graded or the more difficult side?
2		MR. MESH3ESHER: Opject to form. Go ahead.
	Ziones	•
3	A	Probably the more the more difficult.
4	Q	What made it more difficult?
5	A	The existing terrain.
6	Q	What about the existing terrain made it more
7		difficult? That's what I'm trying to figure out.
8		Was this an easy job or a hard job as far as grading
9		is concerned and why? So
10	A	It was a moderate type job, maybe a little leaning
11		towards more difficult
12	Õ	Okay.
13	A	because of the amount you had to move.
14	Q	Amount of topsoil?
15	A	No. The topsoil would be there whether you strip
16		the topsoil off of 30 acres or whatever I ended
17		upgrading. Any 30 acres batch would be the same
18		amount of topsoil.
19	Q	Okay. And you said the topsoil earlier on this, you
20		said the topsoil was four to six inches deep?
21	A	Three to six.
22	Q	Three to six. Okay. So as a grader, somebody who is
23		going to grade a subdivision, is that step number one
24		is to take all that topsoil cif?
25	A	Yes.

1		
1		final grade map have been substantially different
2		than the existing grade?
3	A	No.
4	Q	No. So your grading or your coarse grading would
5		have made maybe minor changes to the existing grade?
6	A	Yes.
7	Q	Generally, and in your experiences in grading,
8		cutting, what is the average depth that you go when
9		you cut?
10	A	I don't know.
11	Q	Okay.
12	A	I don't know.
13		THE WITNESS: Did you get that?
14		THE COURT REPORTER: Yes.
15	Q	Is there an average depth as far as when you fill?
16	A	No.
17	Ω	Okay. Now, when your wheel first went into this
18		the funnel, the cone one, you were grading, correct?
19	A	Cornect.
20	Q	Okay. Do you remember I want to say were you
21		doing anything crazy, but were you taking a big cut
22		or a little cut or do you remember thinking that what
23		you were doing could have caused that collapse?
24		MR. MESH3ESHER: I'll object to the form, but you
25		can answer.

# IN THE SUPREME COURT OF THE STATE OF SOUTH DAKOTA

ANDREW MORSE and JOHN AND EMILY CLARKE, for themselves and on behalf of all similarly situated individuals,

Plaintiffs/Appellants,

VS.

STATE OF SOUTH DAKOTA, and/or THE SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successors of the SOUTH DAKOTA CEMENT PLANT COMMISSION, and the SOUTH DAKOTA CEMENT PLANT TRUST,

Defendants/Appellees.

Appeal No: 30899

### APPEAL FROM THE CIRCUIT COURT FOURTH JUDICIAL CIRCUIT MEADE COUNTY, SOUTH DAKOTA

# THE HONORABLE ERIC STRAWN CIRCUIT COURT JUDGE

#### BRIEF OF APPELLEE

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NOTICE OF APPEAL FILED NOVEMBER 7, 2024

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#### PRELIMINARY STATEMENT

Appellees will refer to the Appellants, the named class members Andrew Morse and John and Emily Clarke, as either "Appellants" or "the Class Members." Appellees, will refer to themselves as "the State." The South Dakota Cement Plant will be referred to as "the Cement Plant."

References to the Settled Record will be indicated by the part number of the record and the page (e.g. "R1 ___", "R2 ___", etc.). Appellants' Appendix will be referred to as "APP __"

#### JURISDICTIONAL STATEMENT

The Class Members appeal an Order and Judgment of Dismissal issued by the Meade County Circuit Court on October 15, 2024 and an Order Granting Defendants' Motion for Summary Judgment and Denying Appellants' Motion for Summary Judgment in favor of Appellees on October 8, 2024. APP. 1-2. The Order Granting Summary Judgment determined that the Appellants' causes of action were precluded by sovereign immunity and that the matter should be dismissed on its merits with prejudice. APP Appellants timely filed a Notice of Appeal seeking review of "every order, ruling, or determination of the trial court, involving the merits and necessarily affecting the judgment and appearing upon the record." R6 1310.

#### STATEMENT OF LEGAL ISSUES

1. Whether the circuit court correctly granted summary judgment to the state based on sovereign immunity?

The Circuit Court ruled that Appellants' cause of action was barred by sovereign immunity because they were seeking relief under tort theory.

Authorities:

- 4 Nichols, Eminent Domain, § 14.245[1], pp. 626-628 (Revised 3d Ed.)
- Henderson v. City of Columbus, 827 N.W.2d 486 (Neb. 2013)
- 2. Whether Appellants can demonstrate a viable inverse condemnation case? Authorities:
  - Hannaher v. St. Paul, Minneapolis & Manitoba Railway Co., 37 N.W. 717 (S.D. 1888)
  - Johns v. Black Hills Power, Inc., 2006 S.D. 85, 22 N.W.2d 554
  - Illinois Central Railroad Co. v. E. Sioux Falls Quarry Co. 144 N.W. 724 (S.D. 1913)
  - Long v. State, 2017 S.D. 79, 904 N.W.2d 502
- 3. Whether the circuit court properly denied appellants' motion for summary judgment?

#### Authorities:

- Restatement (Second) of Torts, § 820 (1979)
- SDCL § 45-6B-9
- English v. Harris Clay Co., 35 S.E.2d 329 (N.C. 1945)

#### STATEMENT OF THE CASE

Appellants appeal the Honorable Judge Eric Strawn's dismissal of this case, arguing that he improperly found their case was barred by sovereign immunity because it sounded in tort versus inverse condemnation. Their argument is unsound.

The South Dakota Cement Plant surface mined property between 1986 and 1991, which it owned. This same property had been mined by other companies since as early as the 1910s, both on the surface and underground. Appellants' experts agree that there is no evidence the Cement Plant performed underground mining and opined that the underground mine collapse would have occurred with or without the Cement Plant's activities on the property.

After Cement Plant ceased its surface mining, it reclaimed its property to its prior use as pastureland as required. After the State sold the property, it remained pastureland for a number of years. The developer of the property developed it knowing it had been surface mined and that there was an existing underground mine on the property. The developer and his workers fell into the underground mine at least twice during development. The developer disclosed the prior mining to the homebuilders of Hideaway Hills. It was the homebuilders and their realtor who purposefully hid the presence of prior mining from those who purchased the homes built on the previously-mined property. Despite these facts, Appellants continue to argue that the Cement Plant's actions or omissions have caused the property owners within not only the area that the Cement Plant mined, but land surrounding it which the Cement Plant never mined, to be damaged and/or taken through inverse condemnation requiring the State to pay to over \$60 million in damages.

Judge Strawn appropriately found that Appellants' case was barred by sovereign immunity because their true cause of action is that of tort which they are disguising as inverse condemnation. Appellants cannot satisfy the requisite elements of inverse condemnation, and thus their claim is truly that of tort, which is barred by sovereign immunity.

This brief will first explain how the circuit court correctly dismissed this case under sovereign immunity principles. It will next support the circuit court's conclusion by explaining that Appellants have not demonstrated a viable inverse condemnation action.

This brief will end by addressing how Appellants' request for the Court's reconsideration of their summary judgment motion is futile.

#### STATEMENT OF FACTS

This case involves real property formerly described as Tract 1 of Lot 1 of the NW/4, less Lot AR and Lot H-1, and Lot 3 of the NE/4, less Lot H-1, Section 8: T2N-R7E in Meade County, South Dakota (hereinafter "the property"). APP 13; R5 138, 690.

#### a. Mining History

Commencing in the early 1900s, the land was owned and mined for gypsum by Dakota Plaster. APP 13 ¶ 2; R5 145. Dakota Plaster mined the property starting in the early 1900s and up to potentially as late as 1930. APP 14 ¶ 3; R5 145-47. At some point, Dakota Plaster mined underground, using a room and pillar method of mining. *Id.* ¶ 4; R5 148-51. Dakota Plaster mined on both the surface and underground. *Id.* ¶ 5; R5 145-51. In 1930 Dakota Plaster was acquired by U.S. Gypsum, which ran its business out of Piedmont, South Dakota. *Id.* ¶ 7; R5 158. The property was thereafter transferred to U.S. Gypsum. *Id.* ¶ 8; R5 159-60.

In 1945, Edwin Stensaas purchased the property. APP 14 ¶ 10; R 161. He and his family resided in a house in the northwest corner of the property (which now is addressed 6975 Meadow Rose Lane) from 1945 to at least the late-1980s. *Id.*; R5 162, 168 lines 2-19. In approximately 1946, Hills Materials, a subsidiary of Northwestern Engineering (for whom Stensaas worked), mined the property. *Id.* ¶ 11; R5 173-76. It mined in 1946, and potentially mined up to the mid-1950s. *Id.*; APP 15 ¶ 12; R5 162, 169 lines 7-16.

#### b. Cement Plant's purchase and use of the property.

The Cement Plant purchased the property in 1985 for \$140,000 for the purpose of surface mining for gypsum. APP 15 ¶¶ 17-18; R5 218-30. It purchased the property via a

contract for deed which reserved a life estate for Stensaas to continue residing in his home and retain a portion of land on the northwestern and western sides of the property. *Id.* 

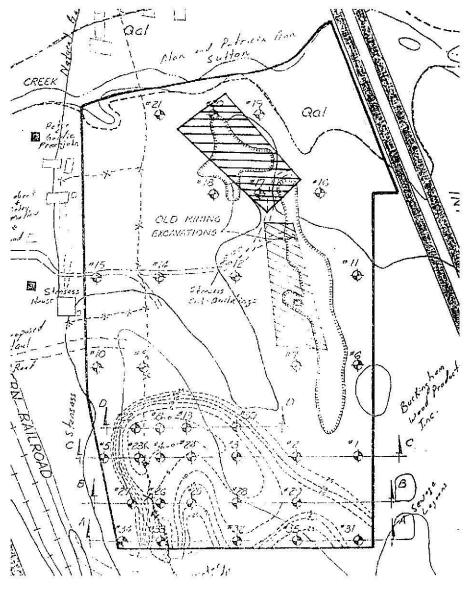
The Cement Plant received a permit to mine the property in 1985. The original permit was titled Permit 424. APP 15 ¶ 19; R5 231-33. The application for the 1985 permit was filed with the Meade County Register of Deeds on June 25, 1985. *Id.* ¶ 20; R5 234. Permit 424 was later converted to a mine license (License 89-383) in 1989 when the State procedures changed to a license system. *Id.* ¶ 21; R5 235-36. The mining plan accompanying the permit stated that the land was to be reclaimed to pastureland, because its prior use had been pastureland. *Id.*; R5 237-38. Although not required by law, as a courtesy to the Game, Fish and Parks and the soil conservation service, the Cement Plant agreed to grade and contour portions of the northeastern side of the property, which were not previously reclaimed by former mining operations. APP 16 ¶ 24; R5 244.

Mining commenced in April of 1986. APP 16 ¶ 27; R5 246. The Cement Plant mined an average of three acres per year in the southern portion of the property from 1986 to early 1991. APP 17-19 ¶¶ 36-49; R5 257-85. The Cement Plant reclaimed the areas it mined as it completed each mined portion. *Id*.

Between June 1986 and July of 1987, the Cement Plant reclaimed a five-acre portion of the land in the northeastern side of the property. APP 16 ¶ 29; R5 246. Part of that reclamation involved blasting closed an underground mine opening. *Id.* ¶ 30; R5 250. Lyle Dennis, the blasting supervisor, oversaw the blasting. *Id.* ¶ 31. He confirmed he shot the opening and it collapsed. APP 17 ¶ 32; R5 248, 255 lines 21-25, 254, 256 lines 1-8. They also checked the blasting area for gypsum and determined that there was insufficient gypsum to take. *Id.* The area was graded and contoured after it was blasted. *Id.* 

Between July of 1987 and June of 1988, the Cement Plant also graded and contoured a portion (separate from where it had blasted) of the east central side of the property, which is now known to be in general vicinity of a portion of the underground mine at issue in this case. *Id.* ¶¶ 34-35; *compare* R5 257-58 *with* 259.

The two northern areas that were graded and contoured by the Cement Plant shown in the below map, as diagonally crossed rectangles. The darker diagonally crossed rectangle farthest north is the area which was blasted. The general vicinity of the Cement Plant's surface mining is shown by the dashed lines in the southern portion.



In 1989, the Cement Plant found that the ore body of the gypsum it was mining extended into the property to the south of the permit, so the Cement Plant signed a lease with Victor Pengra, the property owner to the south, and amended its permit to mine a little over a half-acre (100 feet by 250 feet) to the south, onto Pengra's property. APP 17 ¶ 37; R5 261-76, 741-45. The mining permit application was filed with the Meade County Register of Deeds on June 27, 1989. *Id.* ¶ 38; R5 261-78.

Prior to the 1990 annual report approximately fifteen acres in the northern portion of the property were graded and seeded. APP 17 ¶ 40; R5 279-80. That area included the two old mining areas previously graded and contoured. APP 18 ¶ 41; R5 279-80.

The final mine license inspection report listed the total acres mined by the Cement Plant at sixteen acres (which should have been sixteen and a half acres, to account for the half acre of the Pengra property), with sixteen (which should have been sixteen and a half) acres reclaimed from actual mined area. APP 18 ¶ 47; R5 282-83. The 1992 report noted that hay was cut off the site last year/summer. APP 18-19 ¶ 48; R5 283. There is no evidence — and Appellants' experts agree — that the Cement Plant mined or reclaimed outside of the permit area. APP 19 ¶ 50; R5 186, 194 lines 21-23. There is no evidence — and Appellants' experts agree — that the Cement Plant performed underground mining. R5 186, 204 lines 1-16.

#### c. Cement Plant's sale to Fuss

The Cement Plant was released from its permit obligations on January 20, 1993. APP 19 ¶ 51; R5 285. The property was appraised on March 2, 1993. *Id.* ¶ 52; *see* R5

 $^{^1}$  The fifteen acres graded and seeded in the northern portion of the area was not included in the report because it was not related to mining activities. APP 19 ¶ 49; R5 282-84.

286-322. The appraiser concluded that any type of residential subdivision was foreclosed on the property due to lack of utility service availability. *Id.* ¶ 55; R5 300. The appraiser provided:

Buckingham Wood Products stated that the Northdale development was not profitable, and no expansion plans of the subdivision are being considered. Also, the lack of utilities would negate the financial feasibility of any intense development. In summary, financial feasibility is limited to a residential ranchette; the previous use prior to the sale of the subject to the State Cement Plant for gypsum extraction. No other feasible use is noted.

Id. ¶ 56; R5 301. The "ranchette" was the preexisting Stensaas house and outbuildings along with the remainder of the property. Id.

The Cement Plant solicited public bids for the sale of the property due on April 15, 1994. APP 20 ¶ 57; R5 323. The public notice described the property, stated bids should be submitted to the Cement Plant, and if anyone had questions about the property they should contact Vince Street or Steve Zellmer at the Cement Plant. *Id.* ¶ 58.

Raymond Fuss submitted the winning sealed bid for the property for \$92,154. APP 20 ¶ 59; R5 330-32; *compare* R5 218-19. He purchased the property for his son, Larry Fuss. *Id.* ¶ 60; R5 333, 334 lines 15-24. Larry Fuss moved his family into the Stensaas house in 1998. *Id.* ¶ 61; R5 333, 338 lines 5-7. The first year Fuss owned the property, the property was hayed, as it had been when the Cement Plant owned the property. *Id.* ¶ 62; R5 333, 335 lines 18-25, 336 lines 1-9. In subsequent years, until around 2000, Fuss leased the land for horses to pasture. *Id.* ¶ 63; R5 333, 337 lines 1-12.

Fuss had no intention of developing the property when the property was purchased. APP 20 ¶ 64; R5 333, 339 lines 21-25, 340 lines 1-4. Fuss knew that the Cement Plant had mined the property on the surface, and he was fully aware of the existing underground mine. APP 21 ¶ 68; R5 333, 347 lines 2-10. He was aware that

children used to play in the underground mine, and he was also aware that the Stensaases had used the underground mine as a dump, disposing of old cars and trash. *Id.* ¶ 69 70; R5 333, 347 lines 2-10, 405.

#### d. Fuss meets Kuchenbecker

Around 1999 or 2000, Keith Kuchenbecker approached Fuss about developing the property. APP 21 ¶ 71; R5 333, 341 lines 7-10. The two started working together to construct a manufactured home park. *Id.* ¶ 72; R5 333, 341 lines 7-10, 344 lines 17-25. Fuss's purchase agreement selling the property to Kuchenbecker specifically outlined and disclosed the underground mine. *Id.* ¶ 75; R5 398-406. It stated:

12. **CONDITION OF PROPERTY**. KUCHENBECKER have thoroughly researched, examined and tested the property to their own satisfaction and know that there may be excessive rock, underground cavities, foundations, and junk underground. KUCHENBECKER accept the property in an "as is" condition with no guaranty by FUSS that the property is suitable for any development contemplated by KUCHENBECKER.

R5 405.

On July 13, 2000, Kuchenbecker submitted a packet to the Planning Commission entitled "Hideaway Hills Manufactured Housing Community." APP 22 ¶ 79; R5 357-97. The packet contained the following excerpt:

In the 1980's the South Dakota Cement Plant mined the gypsum rock from the site. One can still identify spoil pile areas by abnormal terrain and exposed gypsum fragments. In the early 1900's an underground gyp mining operation took place on the NE corner of the property. Field boring operation may be required to identify any cavities that may be a safety hazard.

Id. ¶ 80; R5 361.

At some point Kuchenbecker decided to build a stick-built housing development instead of a manufactured housing development because a member of the Planning Commission was more amenable to traditional development. APP 21 ¶ 81; R5 408, 409,

lines 1-9. The County voted on August 19, 2002, to approve Phases 1, 2 and 3 of the development of the Hideaway Hills Subdivision. APP 23 ¶ 85; R5 438. The County did not require field boring of the site. *Id*.

#### e. Voids encountered during development.

Kuchenbecker commenced developing the property in 2002. APP 23 ¶ 86; R5 463. Part of his development included leveling portions of the property. SUMF ¶ 90; R5 333, 345 lines 17-20, 351-54, 465. Kuchenbecker leveled a hill north of Pengra's property, moved the dirt to the middle of the development, and also blasted a section of the property in the same area. *Id.* ¶¶ 91-92; R5 333, 345 lines 17-20, 471.

On or about April of 2004, as Kuchenbecker was taking a scraper over the northeast portion of the property on what would become the street of East Daisy Drive, his scraper wheel fell into a void. APP 23 ¶ 93; R5 408, 416 lines 15-25, 417 1-8. Upon inspection, he determined that the void was forty to fifty feet to the bottom and deep enough he had to repel into it. APP 24 ¶ 94; R5 408, 418 lines 5-25, 419 lines 1-13. He did not walk the length of the hole and he could not estimate how far the hole went under the ground. *Id.* ¶ 95. The solution to the hole was to fill the hole back in and compact the ground. *Id.* ¶ 99; R5 408, 423 lines 20-25, 424 lines 1-7.

Kuchenbecker then had an engineering firm drill bore holes in the footprint of the houses that would be built on East Daisy Drive to determine whether they would be over any voids. APP 24 ¶ 100; R5 408, 426 line 25, 427 lines 1-13, 428 lines 3-12, 492-502. The holes went twenty-five feet deep and did not encounter voids and Kuchenbecker continued developing the subdivision. *Id.* ¶ 101.

Not long thereafter, Brandon Powles, who assisted Kuchenbecker with trenching utility lines (which were buried approximately six feet deep), encountered another void as he was digging utility trenches along East Daisy Drive. APP 25 ¶ 106; R5 448, 456 lines 11-21. This void was smaller than the other void and was estimated to be six feet deep. *Id.* ¶ 107. John Ogden, who assisted Kuchenbecker with developing the property, stated that he and Powles suggested excavating the site to see what they were dealing with. *Id.* According to Odgen, Kuchenbecker overruled them and told them to fill it, and then to encase the pipe with a steel casing. APP 26 ¶ 110; R5 448, 456 lines 11-21, 467-470.

The Hideaway Hills 1 Subdivision was completed around 2005. APP 26 ¶ 116. It encompasses all of the property formerly owned by the Cement Plant, plus all of the former Lot C, which was Pengra's property. *Id.* ¶ 117.

#### f. Realtor and homebuilders cover up mining.

Kuchenbecker contracted with realtor Ronald Sjodin on an exclusive listing basis for the sale of the lots in Hideaway Hills 1. APP 27 ¶ 123; R5 537. As part of every purchase and sales agreement Kuchenbecker had Sjodin provide the following disclaimer, which was signed by both Kuchenbecker and the person purchasing the lot. It stated:

The BUYERS acknowledge that they have been made aware that the property being purchased hereunder, along with the adjoining property, was once mined on the surface and underground for gypsum. The SELLER is unaware of the exact date that the underground mining ceased but believes it was sometime in the 1950's. The surface of the property was reclaimed to meet the requirements of the State of South Dakota after the surface mining operation was completed. The SELLER is not making any warranty, express or implied, concerning any sub-surface conditions that may exist on the property being purchased by the BUYER herein. It will be the BUYER's responsibility to remediate any subsurface conditions that exist on the property including, but not limited to, fissures or cavities that may be as a result of these mining operation. The BUYER has accepted the subsurface of the property in an "as is" condition, without any warranty by the SELLER.

APP 28 ¶ 125; R5 543.

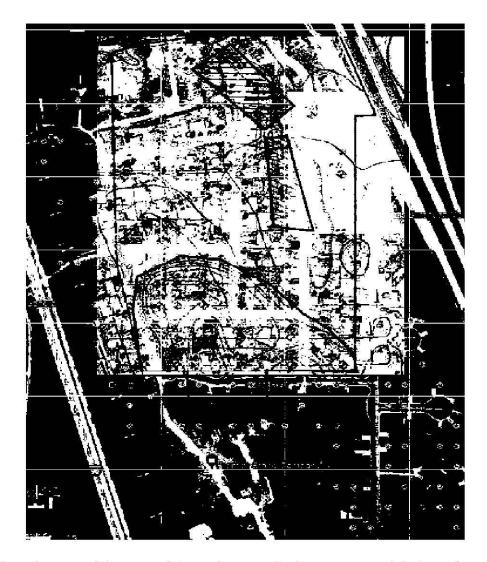
Sjodin also represented every homebuilder in Hideaway Hills on the sale of the houses to the people who would be the first home purchasers. APP 28 ¶ 126; R5 544-53. When asked why Kuchenbecker's disclosure was included with the sale from Kuchenbecker to the homebuilders, but not from the homebuilders to the homebuyers, Sjodin's response was that no disclosure was required because disclosures are required only for existing houses and not for new construction. *Id.* ¶ 127; R5 555-56. Sjodin stated that he and the homebuilders made the decision not to pass on the disclosure to the homebuyers because he did not feel that prior mining on the property was a material defect (which would have required disclosure as part of his duties as a licensed realtor) on the lots he was selling. APP 28-29 ¶ 128; R5 557-58. He also stated that if Kuchenbecker had directed him to pass on the disclosure to all future buyers, he would have walked away from the subdivision. *Id.* ¶ 129.

## g. April 27, 2020, Sinkhole.

The sinkhole that triggered the present lawsuit occurred on April 27, 2020. Petition for Class Action; APP 30 ¶ 141. It formed on East Daisy Drive, in generally the same location as every other sinkhole that had formed previously. *Id.* ¶ 142; R5 464-65, 466, 469 lines 24-25, 470 line 1. For perspective, the permit 424 map previously shown above has been superimposed over an aerial view of the subdivision,² with the map of the underground mine also superimposed.

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² The permit area outline is not exact, because the image used of the permit boundary was a drawing rather than an aerial photograph. See R5 258-59, 600



Below is a close up of the map of the underground mine over an aerial view of a portion of East Daisy Drive:



The present case was filed in November of 2020 and originally sought damages for various causes of action including: inverse condemnation, breach of express covenant, breach of duty of subsurface/subjacent support, and unjust enrichment/constructive trust. APP 31 ¶ 147. However, all counts except inverse condemnation were dismissed leaving inverse condemnation as the sole issue before the circuit court. *Id.* ¶ 148.

The parties filed cross motions for summary judgment. R4 3997 & R5 53. The circuit court granted summary judgment to the State based on the fact that Appellants' true cause of action was not inverse condemnation; but rather, a tort action for subjacent support. APP 3.

Finally, many of Appellants' "facts" set forth to this Court are intermingled with demonstrable fallacies³ and arguments as to what the State allegedly did wrong according to Appellants' expert opinions. *See generally* Brief of Appellants, pp 8-21 (hereinafter "Appellants' Brief"). The vast majority of those opinions were contradicted by their experts' depositions while others were introduced after the experts' depositions and closing of discovery. *See, e.g.*, APP 129-133 (enclosing an affidavit from expert dated June 24, 2024, three days prior to Appellants' Motion for Summary Judgment and months after expert was deposed). For the sake of brevity, the State requests that this Court refer to the underlying summary judgment filings, particularly the State's Statement of

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³ One of numerous instances: Pages 10 through 11 of Appellants' Brief alleges that the "State's 'mine workings likely extend further to the east and south than are currently mapped." It is undisputed that the State did not perform underground mining. Yet, Appellants continuously imply to this Court that the State conducted underground mining. Furthermore, the above example omits the fact that Appellants' experts stated that the underground mine could potentially extend to just four additional houses outside of the fourteen properties that were evacuated. APP 86. Yet, throughout Appellants' Brief, they intimate (or expressly state) that all Appellants' houses are at risk of "falling into the abyss." See Appellants' Brief p. 38.

Undisputed Material Facts (APP 13-34), its response to Appellants' alleged facts (APP 68-107), and its reply to Appellants' response to the State's Statement of Undisputed Material Facts (R6 1066-80).

### STANDARD OF REVIEW

A grant of summary judgment is proper if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. SDCL § 15-6-56(c).

"This Court determines whether summary judgment is proper by reviewing whether the moving party has "clearly demonstrate[ed] an absence of any genuine issue of material fact and an entitlement to judgment as a matter of law." *Luther v. City of Winner*, 2004 S.D. 1, ¶6, 674 N.W.2d 339, 343. "Any disputed fact is not material unless it would affect the outcome of the suit under the governing substantive law in that 'a reasonable [trier of fact] could return a verdict for the non-moving party." *S.D. State Cement Plant Comm'n v. Wausau Underwriters Ins. Co.*, 2000 S.D. 116, ¶9, 616 N.W.2d 397, 400-01 (quoting *Weiss v. Van Norman*, 1997 S.D. 40, ¶11 n.2, 562 N.W.2d 113, 116). "All reasonable inferences drawn from the facts must be viewed in favor of the non-moving party." *Tolle v. Lev*, 2011 S.D. 65, ¶11, 804 N.W.2d 440, 444. "Yet, the party challenging summary judgment must substantiate his allegations with sufficient probative evidence that would permit a finding in favor on more than mere speculation, conjecture, or fantasy." *Id.* 

"[O]n appeal this Court will affirm the circuit court's ruling granting a motion for summary judgment if any basis exists to support the ruling." Stern Oil Co. v. Brown, 2012

S.D. 56, ¶ 9, 817 N.W.2d 395, 399 (quoting *Discover Bank v. Stanley*, 2008 S.D. 111, ¶ 19, 757 N.W.2d 756, 762) (emphasis added).

### ARGUMENT AND AUTHORITIES

# I. THE CIRCUIT COURT CORRECTLY FOUND SOVEREIGN IMMUNITY SHIELDS THE STATE FROM SUIT IN THIS MATTER

When determining whether a plaintiff is entitled to compensation under allegations of inverse condemnation, the first question a court must ask is whether the claim presented is actually inverse condemnation or if it is instead one of tort. 4 Nichols, Eminent Domain, § 14.245[1], pp. 626-628. This rule is so engrained into American jurisprudence that it is specifically set forth in Nichols, Eminent Domain. *Id.* ("If the damage for which recovery is sought is the result of improper, unlawful or negligent construction recovery may not be had therefor in the [condemnation] proceeding; the owner is relegated in such case to a common-law action for damages"). ⁴ "The Due

⁴See also St. Francis Drainage Dist. v. Austin, 296 S.W.2d 668, 671 (Ark. 1956) ("When all is said and done, and regardless of what this cause of action may be called, it sounds in tort."); Tilton v. Reclamation Dist. No. 800, 48 Cal. Rptr. 3d 366, 369-74 (Cal. Ct. App. 2006) (concluding that "garden variety inadequate maintenance . . . is not an adequate basis for an inverse condemnation claim"); Trinity Broad. of Denver, Inc. v. City of Westminster, 848 P.2d 916, 920-22 (Colo. 1993) ("[I]nverse condemnation, as its name suggests, is the mirror-image of eminent domain. To invoke the power of eminent domain, a governmental or public instrumentality . . . must intend to use the property taken for a proper public purpose . . . . "); Johnson v. City of Atlanta, 161 S.E.2d 399, 400-01 (Ga. Ct. App. 1968) ("From the facts set out in the petition no inference can be drawn that the damage to the plaintiff's house was done in order that it be used for a 'public purpose.""); Angelle v. State, 34 So. 2d 321, 323-27 (La. 1948) (stating that the "public purposes" requirement of the Louisiana Constitution cannot be met by mere proof of "negligent acts or omissions"); Electro-Jet Tool & Mfg. Co. v. City of Albuquerque, 845 P.2d 770, 774-80 (N.M. 1992) (stating that "the owner must allege and prove at least the kind of deliberate taking of a calculated risk described above, so that the damage can meaningfully be said to have occurred 'for' (i.e., in order to accomplish) a public use"); Gearin v. Marion Ctv., 223 P. 929, 933 (Or. 1924) ("There was no intention upon the part of the county to subject the property

Process Clause is not violated by merely negligent conduct." *Deshaney v. Winnebago Cty. Dep't of Soc. Servs.*, 489 U.S. 189, 211 (1989). This is true even if the state's negligence results in the loss of life or property. *New Holland Vill. Condo. v. DeStaso Enters.*, 139 F. Supp. 2d 499, 503 (S.D.N.Y. 2001).

Nebraska's analysis differentiating inverse condemnation from tort is helpful in explaining the issue in this case. In *Henderson v. City of Columbus*, the Nebraska Supreme Court was faced with a claim where a landowner sued a city for a sewer drain clogging and depositing sewage in the landowner's basement. *Henderson v. City of Columbus*, 827 N.W.2d 486, 489 (Neb. 2013). Like South Dakota's Constitution, Nebraska's constitutional provision provides that private property may not be "damaged" for public use without just compensation. *See* Neb. Const. Art. 1, § 21. The Court ruled the "threshold issue" in an inverse condemnation case is to determine whether the property was "taken or damaged as the result of the exercise of the governmental entity's exercise of its power of eminent domain; that is, was the taking or damaging for 'public use'" and "not whether the actions of the governmental entity were the proximate cause of the plaintiff's damages." *Id.* at 492. The court stated "[o]nly after it has been established

Hamilton Bridge Company v. United States, 260 U.S. 125, 127 (1922)

(same); Hughes v. United States, 230 U.S. 24, 35 (1913) (same).

or any part thereof to a public use . . . . "); City of San Antonio v. Pollock, 284 S.W.3d 809, 820-21 (Tex. 2009) ("An accidental destruction of property does not benefit the public. The public-use limitation 'is the factor which distinguishes a negligence action from one under the constitution for destruction.""); Drake v. Vill. of Lima, 530 F. Supp. 3d 285, 292 (W.D.N.Y. 2021) ("Here, Plaintiffs' takings claim is premised on the Defendants' alleged negligence in maintaining and operating the Sewer Line, resulting in a clog and associated backflow. However, this is precisely the type of government inaction that has been found insufficient to support a takings claim."); Sanguinetti v. United States, 264 U.S. 146, 150 (1924) (holding tortious conduct does not amount to taking); Keokuk &

that a compensable taking or damage has occurred should consideration be given to what damages were proximately caused by the taking or damaging for public use." *Id*.

The Nebraska Court held, regardless of whether the government actions proximately caused the landowner's damages, the actions did not occur as a taking or damaging for public use. *Id.* In coming to its conclusion, the Court found that "[a]ccidental, unintended injuries inflicted by governmental actors are treated as torts, not takings." *Id.* at 493 (quoting *Milwaukee, St. Paul and Pacific*, 799 F.2d 317, 325-26 (7th Cir. 1986)).

The Wyoming Supreme Court, in *Chavez v. City of Laramie*, analyzed a similar cause of action brought under inverse condemnation when a person's property was damaged when officials constructing a new roadway accidentally struck a pipe which flooded the plaintiff's property. 389 P.2d 23 (Wyo. 1964). The Court in finding the action to be that of negligence versus inverse condemnation rationalized as follows:

If we permitted the theory of Appellants to prevail in this case, we would subject the state and city to actions for damages in all cases involving injuries to or destruction of private property resulting from the torts of their agents, when acting in an official capacity. This would effectually repeal the universal rule that a state exercising governmental functions cannot be made to respond in damages for tort and is not liable for the torts of its officers or agents in the discharge of their official duties, unless it has voluntarily assumed such liability and consented to be liable.

Chavez, 389 P.2d at 24-25.

South Dakota too requires that "[p]rivate property shall not be taken for public use, or damaged, without just compensation . . . ." S.D. Const. Art. 6, § 13 (emphasis added). In this case, the Cement Plant's commercial operation does not constitute a public use, under the law. See infra Part II.D. Additionally, the alleged injury occurred when the

Cement Plant mined its own land — as opposed to private property; a right which it had procured by the purchase of the property. *See infra* Part II.B.

The Honorable Judge Eric Strawn appropriately found that Appellants' allegations sounded in tort and dismissed Appellants' case based on sovereign immunity. 

Appellants argue that Judge Strawn was incorrect because he relied on the dissent in *Long v. State*. Appellants' Brief, p. 24. However, Judge Strawn, in citing the dissent, did so because he correctly found the facts in *Long* to be distinguishable from the present case.

See APP 10-11.

The defendants in *Long* appealed their denial of summary judgment at the initial stages of the case when the plaintiffs were still alleging tort claims against the State. Brief of Appellant, *Long v. State*, 2015 WL 13653037, at *1 & *8 ("Appellees' initial theory of recovery was based on their negligence, trespass, and inverse condemnation claims."). The defendants argued that the claims arose out of claims excluded under the State's risk-sharing pool pursuant to SDCL § 21-32A-2. *See Long v. State*, 2017 S.D. 79, ¶ 16, n. 2, 904 N.W.2d 502, 508. The defendants in *Long* did not argue that the Appellants could not satisfy the elements of inverse condemnation, because they were disguising their tort claims as inverse condemnation to circumvent sovereign immunity.

In fact, the majority in *Long* acknowledged the validity of the dissent's statement of the law (but found it distinguishable) that if an inverse condemnation claim is actually

⁵ The South Dakota Constitution, Article III, section 27 proclaims: "The Legislature shall direct by law in what manner and in what courts suits may be brought against the state." Unless the legislature specifically authorizes suit against the State, sovereign immunity exists. White Eagle Oil & Refining Co. v. Gunderson, 205 N.W. 614 (S.D. 1925). "An express waiver of sovereign immunity is required." Adrian v. Vonk, 2011 S.D. 84, ¶ 12, 807 N.W.2d 119, 123 (citations omitted) (emphasis in original).

a tort, it should be dismissed. Compare Long, 2017 S.D. 79, ¶¶ 19-20, 904 N.W.2d at 508 with id., ¶ 66, 904 N.W.2d at 524. While it is accurate that South Dakota's Constitution, Article VI, § 13, essentially abrogates matters which are truly inverse condemnation, the present case is far from a viable inverse condemnation case, for reasons which will be discussed in the remainder of this brief. See infra Part II. Here the State and the circuit court are not proclaiming that an inverse condemnation action is barred by sovereign immunity; rather they assert that Appellants are not actually setting forth an inverse condemnation action.

The proposition that unintended actions not taken pursuant to a public use on the State's own property do not constitute viable inverse condemnation actions is also in line with South Dakota cases that have successfully found government entities liable for inverse condemnation. Those cases involved situations where the government utilized property for a public project (usually a road) and caused damage to *adjacent* property owners as a result of the public project.

In *Rupert*, for instance, this Court upheld damages incidental to the city's intentional application of de-icer onto public streets which drained onto someone's property damaging their trees. *Rupert v. City of Rapid City*, 2013 S.D. 13, ¶ 17, 827 N.W.2d 55, 63. The damaging of private property for public use in that case was incidental to maintaining the public street.

In *Long*, this Court found a taking incidental to a public project (a public highway) whereby the State installed culverts that it knew could only withstand certain types of rain events, which led to damage to adjacent landowners resulting from flooding caused by the insufficient culverts. *Long*, 2017 S.D. 79, ¶ 33, 904 N.W.2d at 515.

Indeed, Appellants' page-and-a-half footnote listing out-of-state lateral support cases, also supports the proposition that inverse condemnation may be sought when *adjacent* landowners are damaged because of *public projects* (though there is a split of authority on that proposition as well [see supra note 5]). See Appellants' Brief, pp. 43-45.

Appellants cite *Rupert* to suggest that an action can be both tort and taking at the same time. Appellants' Brief, p. 27-28. However, this Court's rationale for permitting the inverse condemnation in *Rupert* was because the plaintiffs had set forth a viable inverse condemnation claim, and sovereign immunity barred the two torts alleged in that case. *See Rupert*, 2013 S.D. 13, ¶ 43, 827 N.W.2d at 71 ("An individual's right to bring an inverse condemnation action stems from Article VI, § 13 of the South Dakota Constitution because Article VI, § 13 essentially abrogates sovereign immunity. . . . No such similar abrogation is found for the torts of negligence and trespass."). In other words, *Rupert* affirmed that negligence and trespass are barred by sovereign immunity. *Id.* It *does not stand for the proposition*, as Appellants suggest, that if a cause of action is really a tort, but a public entity is the alleged tortfeasor, that someone can simply refer to a cause of action as inverse condemnation to work around sovereign immunity. The opposite is true. *See* 4 Nichols, Eminent Domain, § 14.245[1], pp. 626-628. In this case sovereign immunity bars Appellants' true cause of action. ⁶

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⁶ Appellants also improperly claim that when inverse condemnation cannot succeed that the Court has "sustained tort claims." *See* Appellants' Brief, p. 30. However, the cases cited do not speak to that proposition. In *Krsnak v. Brant Lake Sanitary Dist.*, the Court also dismissed the plaintiff's nuisance cause of action because it did not fall under the statute's sovereign immunity waiver. 2018 S.D. 85, ¶ 33, 921 N.W.2d 698, 705. In *Hyde v. Minnesota, D. & P. Railroad Co.*, sovereign immunity would not apply in the first place because the suit was against a railroad and not the government. 29 S.D. 220, 136 N.W. 92, 96 (1912), *overruled by Krier v. Dell Rapids Twp.*, 2006 S.D. 10, 709 N.W.2d 841.

A good example of the negative precedent that could be set by allowing Appellants' theories to proceed comes from *Adrian v. Vonk.* 2011 S.D. 84, ¶ 2, 807 N.W.2d at 120. In *Adrian*, a group of ranchers sued the State of South Dakota for nuisance and trespass over prairie dogs coming from adjacent public lands onto the ranchers' property. *Id.* The Honorable Justice Janine Kern, then a circuit court judge, rightfully concluded that the ranchers' cause of action was barred by sovereign immunity. *Id.*, ¶ 6, 807 N.W.2d at 121. This Court affirmed. *Id.*, ¶ 17, 807 N.W.2d at 125. Taking Appellants' argument in this case, and applying it to *Adrian*, all the plaintiffs would have had to do was allege a taking through inverse condemnation and they would escape the sovereign immunity conclusion that was rightfully applied.

A plaintiff simply cannot take a tort case and call it inverse condemnation to defeat sovereign immunity. Doing so would open the State and other government entities' coffers to innumerable causes of action which have traditionally been barred and

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⁷ Another example of what Appellants would have this Court believe is settled precedent but demonstrates a cautionary tale of what could be found to be a viable claim if this Court were to permit Appellants to move forward, is the Cody v. Leapley case. Cody v. Leapley, 476 N.W2d 257 (S.D. 1991). There, the Court found a factual issue due to the abysmal record before it as to whether sexually explicit materials claimed to be property by a convicted murderer in prison were the personal property of the inmate. Id. at 258-61. While in dicta the Court found there "may" be a Constitutional question under the "adverse claims to real or personal property" as implemented in statute, it by no means speaks for the proposition that an inmate will succeed in an inverse condemnation action against the State for the return of or damages to sexually explicit materials confiscated by the prison. See id. at 260. As such, Appellants' characterization that Cody held "that a warden's seizure of noncontraband from prisoners would constitute a taking even though the seizure did not benefit the public and the public had no right to use the contraband" is a flagrant mischaracterization of what the case actually says. Compare Appellant's Brief, pp. 35-36 with generally Cody, 476 N.W2d 257.

undermine the entire purpose of sovereign immunity. Accordingly, this Court should affirm the circuit court's dismissal of this case.

# II. APPELLANTS CANNOT DEMONSTRATE A VIABLE INVERSE CONDEMNATION CASE, GENERALLY

### A. Inverse condemnation overview

Judge Strawn's proper dismissal of this case based on sovereign immunity is further buttressed by the fact that Appellants cannot set forth a viable inverse condemnation cause of action.

Inverse condemnation actions arise from South Dakota's Constitution, Article VI, § 13, which states "[p]rivate property shall not be taken for public use, or damaged, without just compensation . . . ." The intent of the clause is to "ensure that individuals are not unfairly burdened by disproportionately bearing the cost of projects intended to benefit the public generally." *Rupert*, 2013 S.D. 13, ¶ 9, 827 N.W.2d at 61 (quoting *Hall v. State ex rel. S.D. Dep't of Transp.*, 2011 S.D. 70, ¶ 37, 806 N.W.2d 217, 230). "[A]n action by a landowner for inverse condemnation is maintainable where a governmental entity causes an invasion of the land by 'water, earth, sand, or other matter or artificial structures placed upon it, so as effectively to destroy or impairs its usefulness[.]" *Id.*, ¶ 10, 827 N.W.2d at 61 (quoting *Searle v. City of Lead*, 73 N.W. 101, 103 (S.D. 1897)).

To prove inverse condemnation, Appellants must prove: (1) State action pursuant to its eminent domain powers for a public use; (2) that the State action proximately caused the damage suffered by Appellants' properties; and (3) the invasion of Appellants' properties effectually destroyed or impaired the properties' usefulness. *Schliem v. State ex rel. Dep't of Transp.*, 2016 S.D. 90, ¶ 13, 888 N.W.2d 217, 224; *Smith v. Charles Mix* 

County, 182 N.W.2d 223, 224 (S.D. 1970); Krier, 2006 S.D. 10, ¶ 29, 709 N.W.2d at 847-48.

The viability of a takings claim is dependent upon "situation-specific factual inquiries." *Rupert*, 2013 S.D. 13, ¶ 10, 827 N.W.2d at 61. There is "no magic formula [that] enables a court to judge, in every case, whether a given government interference with property is a taking." *Id.* However, the question as to whether a compensable taking or damaging of private property occurred is a question of law for the Court to decide. *Id.* ¶ 29, 827 N.W.2d at 61. "[T]he landowners must establish that the government's action was a legal cause of the invasion which led to the damage." *Long*, 2017 S.D. 79, ¶ 23, 904 N.W.2d at 511.

# B. Appellants can demonstrate no legal injury because the Cement Plant previously acquired the right to damage the property.

Appellants argue that the Cement Plant's mining and reclamation activities left the property unsuitable for development, and therefore, Appellants are entitled to compensation. However, "a landowner is not entitled to compensation under Article VI simply because he has suffered some loss or his property has been devalued as a result of state action." *Schliem*, 2016 S.D. 90, ¶ 14, 888 N.W.2d at 224.

It is well-settled under the law of eminent domain in South Dakota that "the word damaged, as used in the South Dakota Constitution, contemplates only legal injury." Schliem, 2016 S.D. 90, ¶ 14, 888 N.W.2d at 225 (emphasis in the original). Legal injury does not exist when an alleged loss falls within the scope of a right previously acquired by the State. See State ex rel. Dep't of Transp. v. JB Enters., Inc., 2016 S.D. 89, ¶ 27 n.4, 889 N.W.2d 131, 138 (citing Nichols on Eminent Domain § 16.01[1]); Kirby v. Citizens' Tel. Co. of Sioux Falls, 97 N.W. 3, 4 (S.D. 1903); Hannaher v. St. Paul, Minneapolis & Man.

Ry. Co., 37 N.W. 717, 721-22 (S.D. 1888)); see also Long, 2017 S.D. 79, ¶ 19, 904 N.W.2d at 509 (acknowledging rule but finding case to be distinguishable).

In *Hannaher*, the plaintiff filed a tort claim against a railroad company alleging that the construction of an embankment, ditches, and culverts, necessary to construct the railroad track, cast flood waters upon plaintiff's lands and crops. 37 N.W. at 717-18. The railroad company had obtained the right to construct a railroad across the land of the plaintiff. *Id.* The Court determined that when the railroad purchased the right to construct the track on plaintiff's property, "the compensation made [wa]s understood to cover all the damages naturally arising, and reasonably expected to flow, from the proper construction and maintenance of the [railroad]." *Id.* at 721.

The majority opinion in the *Long* case found *Hannaher* to be distinguishable from the facts presented in it because there was no evidence of compensation ever being made to the plaintiffs or their predecessors, but in this case the facts align well. *See Long*, 2017 S.D. 79, ¶¶ 18-19, 904 N.W.2d at 509-10. Here, Appellants' predecessors in interest (Stensaases) were compensated for the property mined by the Cement Plant when the Cement Plant purchased the property for \$140,000. *Compare* this case *with Long*, 2017 S.D. 79, ¶¶ 18-19, 904 N.W.2d at 509-10. Reclaiming the land to pastureland and then selling the property for less than what it purchased the property for was certainly within the scope of the right previously acquired by the Cement Plant when it mined the property. *Id.* As stated by the dissent in *Long* but highly applicable to the present case, "[i]t follows, as a necessary corollary, that, *if the injury complained of was a natural and probable result of the construction of the railroad along the right of way granted by* 

Appellants, it was compensated for in the consideration of the grant, and an action cannot be maintained therefor." Id., ¶ 68, 904 N.W.2d at 525 (emphasis in the original).

One of Appellants' arguments for liability is that the Cement Plant, when it reclaimed to pastureland, failed to remove "pulverized gypsum" and instead intermixed it with overburden used for grading and contouring. APP 32 ¶ 160; R5 186, 190 lines 1-15. This alleged failure supposedly caused the "pulverized gypsum" to invade the land at various depths in the soil which would lead to dissolution if water were to saturate it. *Id.* 

The flaw with Appellants' contention, however, is that the alleged invasion of "other matter" caused by Cement Plant (though gypsum had been present on the property for millennia before the Cement Plant reduced the amount of gypsum on the property) occurred when the State owned the land. *Compare* R5 218-30 *with* R5 690. The general principle that a government cannot perform a taking of its own land is such a basic proposition it can be found in the language of the Constitution without the need for additional citation. *See* S.D. Const. Art. 6, § 13. ("*Private property* shall not be taken for public use, or damaged, without just compensation . . . .") (emphasis added).

In other words, the Cement Plant mined its own property and reclaimed it for pastureland, but it previously acquired the right to reclaim it to pastureland and leave whatever materials it wanted on the land. Thereafter, any alleged failure to disclose or failure to prevent development was not an action causing "water, earth, sand, or other matter" to be placed upon the land of another. *See Rupert*, 2013 S.D. 13, ¶ 10, 827 N.W.2d at 61.

No action is maintainable by the Appellants because the State previously acquired the right to mine and reclaim the properties that are now at issue in this cause of action.

Legal injury does not exist for Appellants and, therefore, this Court should uphold the circuit court's dismissal of this cause of action.

## C. Appellants are subsequent purchasers who lack standing.

"[I]t is a general rule of the law of eminent domain that any award goes to the owner at the time of the taking, and that the right to compensation is not passed to a subsequent purchaser." Johns v. Black Hills Power, Inc., 2006 S.D. 85, ¶ 12, 722 N.W.2d 554, 558 (quoting *Palazzolo v. Rhode Island*, 533 U.S. 606, 628 (2001). The subsequent purchaser rule prohibits landowners from suing for property damage caused by governmental conduct that occurred prior to their ownership. Maslonka v. Pub. Util. Dist. No. 1 of Pend Oreille Cty., 533 P.3d 400, 406 (Wash. 2023) (citing 30 C.J.S. Eminent Domain § 390, at 461 (1965)); § 383, at 757 (1992) ("[W]here property is taken or injured under the exercise of the power of eminent domain, the owner thereof at the time of the taking or injury is the proper person to initiate proceedings or sue therefor.""). "Because the right to damages for an injury to property is a personal right belonging to the property owner, the right does not pass to a subsequent purchaser unless expressly conveyed." Id. (citing Palazzolo, 533 U.S. at 628) ("[I]t is a general rule of the law of eminent domain that any award goes to the owner at the time of the taking, and that the right to compensation is not passed to a subsequent purchaser.").

Here, the Cement Plant surface mined its own property between 1986 and 1991 before selling it in 1994 for almost \$50,000 less than it purchased the property. APP 16-19 ¶¶ 27-51; compare R5 330-32 (Fuss sealed bid for \$92,154) with R5 218-30 (State contract for deed for \$140,000). Assuming without agreeing that mining the property it owned constituted a taking for a public purpose, that taking would have occurred when

the Cement Plant was owner of the property. *See supra* Part II.B. Everyone else in the chain of titles are subsequent purchasers.

Appellants may allege that they are not subsequent purchasers by arguing a taking allegedly occurs when it is discovered, and if so, they may likely cite *Palazzolo v. Rhode Island* as they did in underlying briefing, for that proposition. *See* R6 532; *see also Palazzolo*, 533 U.S. at 607 ("once it becomes clear that the permissible uses of the property are known to a reasonable degree of certainty, a takings claim is likely to have ripened."). However, it was known to the initial purchasers (Fuss, Kuchenbecker, and the homebuilders) "with a reasonable degree of certainty," either at the time they purchased it or while they owned it, that the property had an underground mine on it and had been surface mined with reclamation for grazing only. APP 21, 22, 28 ¶¶ 75, 80, 125; R5 357, 361,398, 405, 543 (all of which were undisputed by Appellants).

The presence of the underground mine was further substantiated to Kuchenbecker when he fell into a fifty-foot cavern of which he could not see the end and then just threw some dirt into it. APP 23-24 ¶¶ 93-95 (undisputed by Appellants). Kuchenbecker, in turn, disclosed the underground mine and surface mining to all homebuilders. APP 28 ¶ 125; R5 543 (undisputed by Appellants). It was realtor, Sjodin, and the homebuilders who purposefully failed to disclose the mining to the first homebuyers after that so they could sell the homes to unsuspecting homebuyers. APP 28-29 ¶¶ 126-129 (undisputed by Appellants).

Even under their own theories, Appellants cannot cite to any authority demonstrating how a cause of action for inverse condemnation, which ripened and became reasonably certain to the prior property owners in Appellants' chain of title, can

somehow be revived against the State because those prior owners — who possessed notice — purposefully covered up the existence of the alleged taking to make more money off of land that should never have been developed in the first place.

The circuit court's dismissal of the State should be affirmed.

# D. The Cement Plant's mining of the property does not constitute "public use" under the Constitution.

South Dakota cases have only permitted recovery for damage or devaluation to private property when the government's actions with respect to the property have been undertaken for public use. *See generally, e.g., Schliem,* 2016 S.D. 90, 888 N.W.2d 217; *Rupert,* 2013 S.D. 13, 827 N.W.2d 55; *Krier,* 2006 S.D. 10, 709 N.W.2d 841. A plain reading of the South Dakota Supreme Court's precedents requires this approach.

The South Dakota Supreme Court defined "public use" over a century ago in Illinois Central Railroad Co. v. E. Sioux Falls Quarry Co. 144 N.W. 724, 728 (S.D. 1913). The definition requires that there be a "use or right of use on the part of the public or some limited portion of it[.]" Id.; see also Benson v. State, 2006 S.D. 8, ¶¶ 42, 88, 710 N.W.2d 131, 146, 163 (denying argument of taking after statute permitted retrieval on private property of animals shot within public right of way, stating "[u]nder the 'use by the public' doctrine as set forth in Illinois Central, we would have to decide whether the public now has purchased and enjoys the right to enter and hunt in the affected realty, not just shoot over it."). The rationale from Illinois Central is applicable in the present case:

[W[hile the legislature may determine that railroads, irrigation systems, mills, schools, etc., are public benefactors and even public necessities, and that their establishment will promote the general welfare; while it may determine that the exercise of the power of eminent domain is a proper agency through which such benefits and necessities may be secured; while it may determine the conditions under which such agency may be employed-yet the fact that the Legislature has enacted legislation covering all these

matters in no manner determines that any particular railroad, irrigation system, mill, or school if established, would in fact be one that would be established for "public use." A railroad through a densely populated district, if constructed for the use of its owners, and over which the state had no control, and to the use of which its people had no rights, would not be one constructed for public use; while a railroad built ahead of the settler crossing mile after mile of uninhabited country, would be constructed *for public use*, if the people had the right to go out upon this uninhabited tract and demand of right the uses and benefits to be derived from the railroad.

Thus we find that the matter that is controlling with the courts is not the *necessity* of the use, not even the *fact* of use, but the *right* to use.

*Id.* at 728-29 (emphasis in the original).

Recently, this Court further tapered its definition of "public use" when it denied "compensation when the state action complained of is labeled a manifestation of the police power[.]" Schliem, 2016 S.D. 90, ¶ 14 n.11, 888 N.W.2d at 225 n.11. In Hammen v. Hamlin County, this Court cited with approval the Oklahoma Supreme Courts' interpretation of their identical statutory provisions as follows: "[T]he [taking] provision taken in its full context, clearly relates to condemnation proceedings, where real property is actually taken and used for a public project. . . . [T]he addition of the 'or damaged' language to the taking provision merely expanded the circumstance when a private owner may recover' for damage to adjacent property when a government action involves a public use or public work." 2021 S.D. 7, ¶ 25, 955 N.W.2d 336, 346 (quoting Sullivant v. City of Oklahoma City, 940 P.2d 220, 222 (Okla. 1997)). The Hamen Court stated: "Courts which have denied compensation under similar eminent domain provisions of their state constitutions have properly applied the framework established by their constitution that a taking or damage claim arises from a public use function . . . . " Id., ¶ 30, 955 N.W.2d at 348 (quotations omitted).

Appellants cite to Eakin v. South Dakota State Cement Comm'n, essentially arguing that because South Dakota's Constitution which states that the manufacture, distribution, and sale of cement is a work of "public necessity and importance" means the Cement Plant's mining of gypsum for its commercial sale is a "public use." Appellants' Brief, p. 37; see also 183 N.W. 651, 651 (S.D. 1921). However, as explained in the preceding paragraphs, the definition of "public use" is a term of art that is different from the standard enabling recitations set forth in constitutional and statutory language giving certain entities the power of eminent domain. Compare S.D. Const. Art. 13 § 10 with in Illinois Central Railroad Co., 144 N.W. at 728; see also SD Const Art. 29, § 1 (elevators and warehouses for marketing of agricultural products); SDCL § 49-16A-75.2 (railroads); SDCL § 21-35-1.1 & -10.1 (utility lines). While the manufacture of cement (like the hunting and retrieving of animals, railroads, and the marketing of agricultural products) in South Dakota, is deemed a public necessity and importance, that does not make it a "public use" for inverse condemnation purposes.

By South Dakota's century-old definition, the property in question was not used for the public nor did the Cement Plant provide access to the public when it mined the property for gypsum. *See Illinois Central*, 144 N.W. at 728. Instead, the Cement Plant was engaged in commercial mining operations. Indeed, the United States Supreme Court has already determined that the operations of the Cement Plant were a commercial use as a market participant, ⁸ rather than being a public use, when it exempted operations of the

⁸ Appellants did not argue that sovereign immunity is waived for Cement Plant operations, generally, and therefore have waived that argument. Regardless, should this Court question the applicability of the Arcon Construction Company, Inc. v. South Dakota Cement Plant and L.R. Foy Construction Company, Inc. v. South Dakota State Cement Plant Commission cases, the two cases are materially distinguishable to the present case.

Cement Plant from Dormant Commerce Clause requirements. See Reeves, Inc. v. Stake, 447 U.S. 429, 446 (1980).

Furthermore, taking Appellants' additional argument — strict liability for alleged failure to maintain the subsurface after it sold the property — maintaining the subsurface of the property includes no public use whatsoever. The public has no ability to transverse the properties of others by virtue of a State mineral rights reservation. The State in maintaining the subsurface, if it were required, would do so for no public benefit at all. In fact, the tax dollars that would be required to supposedly fix the subsurface, as Appellants have continuously pointed out, would allegedly require that the State: (1) remove all homes on the property; (2) dig out the offending gypsum; and (3) replace it with appropriate fill material. See APP 332. This would exceed the value of the homes on the property (see R1 328; R6 1254), and since Appellees have stated the value of the homes is over \$60 million (see R6 1254, lines 9-11), such maintenance would constitute a public detriment for the benefit of a small group of people who were bamboozled — by those in

See 349 N.W.2d 407 (S.D. 1984); 399 N.W.2d 340, 347 (S.D. 1987). Neither the Cement Plant's mining activities nor its effects on the property thereafter are subject to the Uniform Commercial Code. Additionally, this Court recently confirmed that "[t]he State's sovereign immunity applies to all of its functions unless waived, including commercial activities." LP6 Claimants, LLC v. S. Dakota Dep't of Tourism & State Dev., 2020 S.D. 38, ¶ 22, 945 N.W.2d 911, 917–18. In fact, state sovereign immunity pertaining to property use has been affirmed by Catron Land Co. v. Kane, 304 N.W.2d 123, 124 (S.D. 1981).

Furthermore, this Court has all but invited a request to overrule L.R. Foy and Arcon. See LP6 Claimants, LLC, 2020 S.D. 38, ¶ 22, n. 9, 945 N.W.2d at 917-18 ("We note that those cases were decided in 1984 and 1987 and have not been followed for their holdings that adoption of the U.C.C. is an express waiver. Thus, we leave for another day the issue of whether when the Legislature passes a comprehensive uniform code, it complies with the constitutional standard that a waiver must be expressly stated by the Legislature and cannot be implied by this Court."). Appellees would invite and respectfully request this Court to overrule them.

their chain of title with actual knowledge — into purchasing properties on top of an abandoned gypsum mine.

This case is similar to a police power-type damage to property in that while actions subject to the police power are clearly public benefits (such as in the *Hamen* case, a police chase to apprehend a fleeing suspect), the damaged property was not damaged for a public project or use. *See Hamen*, 2021 S.D. 7, ¶ 25, 955 N.W.2d at 346. The Cement Plant's surface mining of the property it owned was for commercial use as a market participant; it was not for a public project or use.

Appellants are unable to demonstrate public use and, therefore, are unable to establish another necessary element of inverse condemnation. This Court should affirm the circuit court's dismissal of this case.

# E. Appellants cannot demonstrate that the Cement Plant's mining was the proximate cause of their alleged injuries.

Inverse condemnation jurisprudence utilizes tort principles when determining causation. *Long*, 2017 S.D. 79, ¶ 61, 904 N.W.2d at 521 (Gilbertson, Cj., dissenting) (quoting 9 *Nichols on Eminent Domain* § G34.03[1]). While normally causation is a question of fact for the jury, in an inverse condemnation case, the ultimate determination of whether the government's conduct constitutes a taking or damaging is a question of law for the court. *Long*, 2017 S.D. 79, ¶ 23, 904 N.W.2d at 511 ("the landowners must establish that the government's action as the legal cause of the invasion which led to the damage."). "[F]or proximate cause to exist, the harm suffered must be found to be a foreseeable consequence of the act complained of." *Id.*, ¶ 26, 904 N.W.2d at 512. "This does not mean, of course, that the precise events which occurred could, themselves, have

been foreseen as they actually occurred; only that the events were within the scope of foreseeable risk." *Id*.

Proximate cause and foreseeability may also be defeated under an "intervening/superseding cause analysis [which] questions the extent of the obligation, or duty, of [an] original actor. . . ." Braun v. New Hope Township, 2002 S.D. 67, ¶ 12, 646 N.W.2d 737, 740. An original actor will be relieved of liability when "the natural and continuous sequence of causal connection between the . . . conduct and the injury is interrupted by a new and independent cause." Id. ¶ 10 (emphasis added). A superseding cause arises because an "intervening force prevents the original actor's antecedent [actions] from becoming a legal cause in bringing about the harm to another." Id. ¶ 13, 646 N.W.2d at 741 (emphasis added) (citing Restatement (Second) of Torts § 441(2) (Am. Law Inst. 1965)).

### In Braun the Court observed:

Prosser notes that in those situations, an original actor is sometimes "free to assume that when a third party becomes aware of the danger, and is in a position to deal with it, the third person will act reasonably. It is only where misconduct was to be anticipated, and taking the risk of it was unreasonable, that liability will be imposed for consequences to which such intervening acts contributed." [W. Page Keeton et al., Prosser & Keeton on the Law of Torts § 44 at 313 (5th ed 1984)]. If a third person "fully discovers the danger, and then proceeds, in deliberate disregard of it . . . to inflict upon the plaintiff the danger which the third person has discovered" the responsibility is shifted to the third party. Id. § 44 at 318-19.

# 2002 S.D. 67 at ¶19, 646 N.W.2d at 742 (emphasis added).

The *Long* majority did not set aside the trial court's findings that the State *knew or should have known*, looking back, that the plaintiff's homes in the case could be flooded by inadequate culverts built to only withstand an eight-year flood event. *See Long*, 2017 S.D. 79, ¶33, 904 N.W.2d at 515. That finding was predicated upon the State *being* 

aware, less than ten years before the damaging flood occurred, that the culverts could only withstand an eight-year flood event and doing nothing to rectify the issue. *Id*.

This case is materially distinguishable from *Long*, however, because the Cement Plant can only be charged with foreseeing what it was aware of at the time, and at the time it was told that the area could not be developed because there was no utility access, and it was right next to a sewage lagoon. *Compare Long*, 2017 S.D. 79, ¶ 33, 904 N.W.2d at 515 ("The State knew, or should have known, that obstruction of the Spring Creek Tributary, absent adequate drainage, would cause flooding.") *with* R5 297, 299-301 (contemporaneously informing the Cement Plant "the lack of utility services would omit some forms of development, such as residential subdivision."). The Cement Plant had no ability to know that the property could be developed, let alone that it would be developed, and it was presented with facts that the property's only viable use was its prior use, which was for pastureland. *Id*.

The State could not have known that:

- The property would be developed into a residential subdivision when the property's appraisal stated further development was not feasible. R5 297, 299-301.
- Meade County, despite knowing that the Cement Plant mined the property and that
  an underground mine existed on the property, would not require a feasibility study
  when it permitted the subdivision. See APP 23 ¶ 85 R5 357, 361, 437-38.
- Developer, Kuchenbecker despite encountering multiple voids in the construction process — would forge ahead and continue to build houses over voids he described as being forty to fifty feet deep, of which he could not see the

- end. See APP 25-26 ¶¶ 102, 106, 116; R5 408, 418 lines 5-25, 419, 420 lines 1-11, 425 lines 5-25; R5 448, 456 lines 11-21.
- Realtor, Sjodin, and the other homebuilders would purposefully fail to provide the disclosure to the homebuyers that prior mining activities occurred on the property.
   See APP 28-29 ¶¶ 126-29; R5 554, 555 lines 14-25, 556 lines 1-16, 557 line 25, 558 lines 1-16.

Looking back now at everything that transpired between the Cement Plant surface mining its own property and today, the State and the Cement Plant cannot be saddled with the ability to foresee the parade of indifference in the fashion that third parties with full knowledge of the property's issues handled the development.

The above actors and their omissions not only prevent foreseeability but also serve as intervening and superseding causes for Appellants' damages in this matter, because those third parties "discover[ed] the danger, and then proceed[ed], in deliberate disregard of it." *See Braun*, 2002 S.D. 67 at ¶19, 646 N.W.2d at 742. Therefore, the Appellants cannot establish causation, and this Court should affirm the circuit court's dismissal of this case.

## F. The statute of repose has expired.

South Dakota applies the twenty-year statutory period under SDCL § 15-3-1 for an affected landowner to bring an inverse condemnation action. *Sioux Falls v. Miller*, 492 N.W.2d 116, 120 (S.D. 1992) ("We have held, on more than one occasion, the right to compensation for the taking of land for public use is not subject to a six-year or ten-year statute of limitations but is barred only by adverse possession for the statutory period of twenty years."). Section 15-3-1 is statute of repose, versus limitations. "A statute

of repose bars all actions after a specified period of time has run from the occurrence of some event other than the occurrence of an injury that gives rise to a cause of action." *Peterson v. Burns*, 2001 S.D. 126, ¶ 41, 635 N.W.2d 556, 570. The twenty-year period under SDCL § 15-3-1 is a statute of repose because the statute bars the bringing of an action based on the occurrence of an event and not on the date the cause of action accrued. *See Hoven v. Banner Assocs.*, 2023 S.D. 33, ¶ 24, 993 N.W.2d 562, 570.

In this matter the date the sinkhole occurred has no impact on the cause of action. The applicable period began to run when the State of South Dakota transferred its property, while reserving mineral rights, to Raymond Fuss. *See Boland v. City of Rapid City*, 315 N.W.2d 496, 501 (S.D. 1982) (applying the twenty-year period regardless of the underlying tort claim). The State of South Dakota transferred its property to Raymond Fuss on June 17, 1994. R5 690. The present lawsuit was filed more than twenty-five years after the commencement of the statutory period of repose.

Accordingly, this Court should affirm the circuit court's dismissal of this case.

# III. THE CIRCUIT COURT CORRECTLY DENIED APPELLANTS' SUMMARY JUDGMENT MOTION

Appellants cannot demonstrate a valid claim for inverse condemnation for reasons previously explained. Despite this, Appellants are attempting to mangle two separate and distinct legal doctrines (lateral support and subjacent support) into a viable argument, by cherry-picking rules beneficial to them from each doctrine while ignoring the rules from both doctrines that damage their case. The fact of the matter is that lateral support arguments are largely inapplicable to the present case. Lateral support jurisprudence

would apply only to land on which the State does not own mineral rights. Subjacent support jurisprudence would apply to the land on which the State owns the mineral rights. However, both lateral and subjacent support theories are barred by sovereign immunity for reasons stated above.

### A. Lateral versus subjacent support

Appellants' briefing relies almost exclusively on lateral support arguments which have little bearing on their cause of action for subjacent support. *See, e.g.* Appellants' Brief, pp. 43-45.

Subjacent support cases pertain to the right of support from land underlying the upper stratum of one's property due to the actions of owners or lessees of property interests beneath the surface, while lateral support cases pertain to damage to property caused by adjacent property owners taking actions on their property that causes subsidence on their neighbor's property. *Compare* 9 Powell on Real Property § 63.06 (2024) (subjacent support) *with* 9 Powell on Real Property § 63.01 (2024) (lateral support). The two causes of action are separate and distinct.

The rules regarding lateral support, for instance, provide that "the owner of land has the right to lateral support from the adjoining soil applies only to land in its natural state, and does not extend to cases where the owner of the land has by buildings or other artificial erections [such as utilities] increased the lateral pressure." *Ulrick v. Dakota Loan* 

⁹ Please refer to the map on page 6 of Appellants' Brief depicting the purple properties to the right of the yellow permit boundary line on the right side and bottom of the page to demonstrate which properties lateral support theories would apply. For properties within the yellow permit line and to the left of the yellow permit line (even though two are coded as purple) subjacent support theories would apply, due to the State owning the mineral rights beneath them.

& Tr. Co., 49 N.W. 1054, 1054 (S.D. 1891); see also Restat 2d of Torts § 817 (1979) (emphasis added). However, that absolute right to lateral support applies only to the land itself and not to artificial structures. *Id.; see also* Restat 2d of Torts § 819; *Grady v. Felker*, 186 N.W.2d 509, 512 (S.D. 1971).¹⁰

Thus, if a plaintiff is alleging damages to structures (which is the case here) the cause of action requires negligence on the part of the person who withdrew lateral support. *See id.*; *see also* 9 Powell on Real Property §§ 63.02[2] & 03 (detailing rationale for negligence standard regarding lateral support claims and requirements to demonstrate lack of due care); *see also* Restat 2d of Torts § 819, cmt. a.

## B. Underground mining.

In this case Appellants imply that because the State reserved mineral rights underneath Appellants' property that somehow now lateral support principals apply, due to the separate "ownership" (as they term it) of the surface and subsurface. However, if separate ownership of the subsurface is all that would be required to convert a subjacent support case into a lateral support case, there would exist no subjacent support claims. See generally, e.g., Breeding v. Koch Carbon, Inc., 726 F. Supp. 645 (W.D. Va. 1989); Haseman v. Orman, 680 N.E.2d 531 (Ind. 1997).

The reason Appellants want to interpose lateral support theory with subjacent support theory into this case is for one main reason: the State did not perform underground

¹⁰ Appellants attempt to use subjacent support rules to argue that the weight of structures is immaterial and therefore strict liability applies, but that rule does not apply to lateral support cases. *Compare* Restat 2d of Torts § 821, cmt. a. (1979) (subjacent support) *with* § 819, cmt a. (lateral support). In fact, any argument made by Appellant suggesting strict liability applies to lateral support cases is also inaccurate. *See* § 819, cmt a.

mining, and Appellants' expert admitted that the underground mine would have collapsed without the State mining. R5 186, 204 lines 1-16. The only way Appellants can argue the State should be found liable for the underground mine collapse is to allege that subsequent purchasers are liable for failure to maintain. Accordingly, they cite *Salmon v. Peterson* and argue that current adjoining landowners are responsible for degradation of structures intended to provide *lateral* support if they are the ones who failed to maintain those structures. *See* 311 N.W.2d 205, 207 (S.D. 1981) (emphasis added).

However, the rules pertaining to subjacent support provide no such liability-shifting to subsequent purchasers. *See* Restat 2d of Torts, § 820, cmt g. Under the subjacent support theory: "[o]ne who withdraws the naturally necessary subjacent support of land in another's possession or the support that has been substituted for the naturally necessary support is subject to liability for a subsidence of the land of the other that was naturally dependent upon the support withdrawn." Restat 2d of Torts, § 820. Comment g. to section 820 specifically provides that:

The person liable under the rule stated in this Subsection is the actor who withdraws the naturally necessary support. It is immaterial whether, in respect to the supporting land, the actor is owner, possessor, licensee or trespasser. The owner or possessor of this land is not liable under the rule stated in this Section unless he was an actor in the withdrawal of support.

Restat 2d of Torts, § 820, cmt g (emphasis added).

The rationalization of excepting subsequent purchasers of old mining excavations from liability for their predecessor's mining was explained well by the Illinois Supreme Court:

Since it is apparently impossible, even at enormous costs, for a successor coal company to enter a worked-over mine and construct supports which will prevent surface subsidences where predecessors did not leave sufficient support pillars, it would be unreasonable to hold the successor company absolutely liable for damages it could not possibly prevent in areas owned but not mined or otherwise used by it.

Tankersley v. Peabody Coal Co., 202 N.E.2d 498, 501-02 (Ill. 1964); see also Platts v. Sacramento Northern Railway 205 Cal. App. 3d 1025, 1029-30 (Cal. App. Ct. 1988).

Additionally, in South Dakota, specifically, our legislature has explicitly exempted subsequent purchasers from a duty to reclaim both surface and underground mines made by prior operations on the property. SDCL § 45-6B-9 states:

Any new or existing underground mining operation being conducted on previously mined land with existing unreclaimed land disturbance may not be required to reclaim such existing unreclaimed land disturbance which was incurred prior to July 1, 1980. The Board of Minerals and Environment may not require reclamation of such land as a condition of any permit. The applicant shall identify existing land which is in this category.

SDCL § 45-6B-9; *see also* § 45-6B-8 (pertaining to unreclaimed land disturbances from surface mining). Section 45-6B-8 and 9 were adopted in 1982 and remain unchanged today.

The Cement Plant did not perform underground mining, and as admitted by Appellants' own expert, the underground mine would have collapsed with or without the Cement Plant surface mining. Additionally, SDCL § 45-6B-9 specifically exempted the Cement Plant from any duty to reclaim the underground mine, which existed on the property since the early 1900s. According to well-established subjacent support precedent, subsequent purchasers are not responsible for maintaining the subsurface when another actor was the one that withdrew the necessary support to prevent subsidence. *See* Restat 2d of Torts, § 820, cmt g. The true cause of action for the dozen or so Appellants with

properties over the underground mine is to sue Dakota Plaster's predecessor in interest, U.S. Gypsum.

### C. Surface mining and mineral rights ownership.

As to the remaining homes that are not over an underground mine, the property which the Cement Plant mined was reclaimed, as it always had been — to pastureland. Neither the Cement Plant's application for mining (which was filed with the Meade County Register of Deeds for public inspection [see R5 234, 261-77]), nor its permit to mine stated or required the land to be made supportable for homesite development. The Cement Plant followed its permit requirements and then sold the property to people who used the land for pasture. By all indications, as expressly agreed upon by Appellants' expert, the property would have been fine for pastureland. R6 1, 9 lines 4-6 ("I think had it stayed pastureland, we wouldn't be here today."). It was the development of the homes on land reclaimed as pastureland without mitigation by the homebuilders or the developer that led to the settlement of those homes. Id.

Appellants cite SDCL § 45-5A-6 for the proposition that the Cement Plant, as a mineral developer, is responsible for all damages from ordinary lack of care or interference caused by "mineral development." *See* Appellants' Brief, pp 40-41 (mistakenly citing nonexistent statute). However, notwithstanding the lack of waiver of sovereign immunity within the statute, SDCL § 45-5A-3(2) defines "mineral development" as "the exploration for or drilling of an oil and gas well *or mineral test hole* which requires entry upon the surface estate and was commenced subsequent to June 30, 1982, *and the oil and gas production operations ensuing therefrom.*" (emphasis added).

There is no evidence that Appellees damaged the property as a result of drilling the test holes, and the Cement Plant did not engage in oil and gas production operations.

In fact, this Court has specifically ruled that SDCL Ch. 45-5A excludes mining. *Rysavy v. Novotny*, 401 N.W.2d 540, 542 (S.D. 1987) ("'Mineral development' includes exploration for oil, gas and other minerals, extraction of oil and gas, but excludes mining.") (citing Truhe, *Surface Owner vs. Mineral Owner or "They Can't Do That, Can They?*", 27 S.D.L.Rev. 376, 414 (1982) ("Interestingly enough, South Dakota's surface damages statute is directed toward exploration, and does not apply to mining [except oil and gas production] even if the mining is done by strip or open pit methods.")). ¹¹ As such, based on the plain language of the statutory definition, Appellants' citations are inapplicable to the present case. *See Puetz Corp. v. S.D. Dep't of Revenue*, 2015 S.D. 82, ¶ 16, 871 N.W.2d 632, 637 ("We begin our interpretation of a statute with its plain language and structure.").

Additionally, a mineral rights reservation does not mean that the reserving entity owns the entire subsurface, like Appellants incorrectly argue throughout their brief. *See Brown v. Cont'l Res., Inc.*, No. 5:18-CV-05048-KES, 2021 WL 6755489, at *6 (D.S.D. Dec. 29, 2021), *aff'd*, 58 F.4th 1023 (8th Cir. 2023) ("Thus, '[t]he pore space beneath [the Browns'] property belongs to [the Browns'] surface estate in the same manner that all the non-mineral material beneath the physical boundaries of [the Browns'] property belongs to [the Browns'] surface estate.""); *see also Burlington Res. Oil & Gas Co., LP v. Lang & Sons Inc.*, 2011 MT 199, ¶24, 259 P.3d 766, 770 ("all the non-mineral material beneath

¹¹ Truhe's article also discussed how, as of 1982, the State of South Dakota owned the mineral rights of one of every ten acres in the State. *See* 27 S.D.L.Rev. at 386.

the physical boundaries of Lang's property belongs to Lang's surface estate); *Cassinos v. Union Oil Co.*, 18 Cal. Rptr. 2d 574, 581 (Cal. Ct. App. 1993) ("The owners of the mineral estate, and their lessees, typically hold only the very limited right, analogous to an easement, to drill and capture subsurface oil and gas, and the incidental rights necessary to accomplish this.").

The mineral rights reservation applicable to this property states:

Grantor reserves unto itself all deposits of coal, ores, metals and other minerals, asphaltum, oil gas, geothermal resources, and other like substances in such land (except sand and gravel), together with the *right to prospect for, mine, and remove the same* upon rendering compensation to the owner or lessee for all damages that may be caused by *such prospecting or removal*.

Exhibit 93 (emphasis added). Appellants apparently believe that the portion of the grant that requires the State to compensate the surface owner of the property for damages for the right to prospect and remove minerals in the future, means that the State must pay for any damage that could potentially be tied to the previous mining of the property when the Cement Plant owned it. Under basic rules of grammatical construction, the promise to pay for damages applies to any prospecting or mining that occurs after the deed is transferred. See Dakota Fire Ins. Co. v. J&J McNeil, LLC, 2014 S.D. 37, ¶ 11, 849 N.W.2d 648, 651.

Appellants' interpretation also defies common sense and applicable precedent concerning mineral rights reservations. At a basic level, Appellants' argument is that uncompacted ground is settling; meaning pore space is reducing under the surface. However, pore space and all other non-mineral material is owned by Appellants, not the State. *See Brown*, 2021 WL 6755489, at *6; *Burlington Res. Oil & Gas Co., LP.*, 2011 MT 199, ¶ 24, 259 P.3d at 770; *Cassinos*, 18 Cal. Rptr. 2d at 581. In addition, settlement of uncompacted ground — owned by the surface owner — does not constitute withdrawal

of subjacent support. See Restat 2d of Torts, § 820. The Restatement language itself requires that an entity remove materials from the land in another's possession. Id. ("[o]ne who withdraws the naturally necessary subjacent support of land in another's possession.

..."). This is why virtually all cases pertaining to withdrawal of subjacent support involve underground mine workings, where tunneling (i.e. withdrawal of support) occurred contemporaneously during mining, artificial supports (such as pillars) were constructed, and then those supports ultimately failed years later. See, e.g., Breeding, 726 F. Supp. at 646 (underground mining); Haseman, 680 N.E.2d at 533 (underground mining); Ambrosia Land Invs. v. Peabody Coal Co., 521 F.3d 778, 779 (7th Cir. 2008) (underground mining subsidence after mine closure).

Situations involving settling after surface mining are typically reserved for negligence or breach of contract claims against the developers who decided to build over prior mining operations. *See, e.g. Gustine Uniontown Assocs. v. Anthony Crane Rental, Inc.*, 577 Pa. 14, 19, 842 A.2d 334, 338 (2004) (suing developer for building over old surface mine); *Jerue v. Drummond Co.*, 2018 WL 7461683, 2018 U.S. Dist. LEXIS 228329, at *6 (M.D. Fla. Apr. 19, 2018) (building over former mining without radiation mitigation).

The difficulty in attempting to convert a subjacent support claim into damages from settlement of homes that were built over previously surface mined land has been addressed in at least one case. The North Carolina Supreme Court was faced with a similar dilemma when it decided in favor of the mineral deed holder on a subsidence claim by a landowner involving pit mining of kaolin (which is a type of clay). *English v. Harris Clay Co.*, 35 S.E.2d 329, 330 (N.C. 1945). The Court discussed the fact that the

rules regarding subjacent support generally revolve around underground and coal mining. *Id.* at 330. However, the Court differentiated surface mining by stating:

In this situation it seems to us that much of the learning relating to subjacent support is of little avail on the present inquiry, unless we undertake the task of fitting a square peg into a round hole. The exceptional facts and conditions met with here -- the character of the mineral to be recovered, the manner of its occurrence, the mode of mining it in vogue in the locality, a knowledge of which is imputable to the surface owner, render many of the "musts" of subterranean mining, including the duty of subjacent support, of more than doubtful application; and if applicable at all under the circumstances of this case, those circumstances and conditions are sufficient upon a fair construction to constitute the language employed in the exceptions and reservations in the deeds a waiver of that right.

Id. at 331. The court closed by opining that the plaintiff's true claim was for negligent damage to the property which was not pleaded, and therefore it dismissed the cause of action. Id. ¹²

Here Appellants are asking the Court to, not only apply inapplicable law to an inverse condemnation claim, but to likewise, fit a square peg into a round hole when it comes to the damages they are alleging to have resulted from the surface mining operation. The very act of surface mining disrupts the surface of the property by removing

¹² Appellants will likely respond as they did in the summary judgment hearing, that North Carolina has abrogated this case through operation of statutory framework specifically dealing with surface mining. *See* R6 1270. This doesn't change the fact that it provides persuasive common law authority for this very issue.

Furthermore, South Dakota's statutory language pertaining to mining contains no express waiver of sovereign immunity. See SDCL Chs. 45-5A, 6B & 45-6C. Given Appellants' citations to administrative rules (albeit in their facts section) allegedly supporting their cause of action "an administrative regulation cannot adopt requirements that expand upon the statute that it purports to implement, and rules adopted in contravention of statutes are invalid." In re Luff Expl. Co., 2015 S.D. 27, ¶ 17, 864 N.W.2d 4, 9 (internal quotations omitted) (invalidating parties' interpretation of ARSD § 74:12:10:01 when it would expand its enabling statute SDCL § 45-9-32 while nullifying another statute). As such, an administrative rule, like those cited by Appellants, cannot waive sovereign immunity; especially when Appellants' interpretation would explicitly contradict SDCL § 45-6B-9.

it, digging the minerals out, and then placing the overburden back on the surface in a fashion contemplated by the use of the property. APP 16 ¶¶ 25-26; R5 237-40. That disruption is not coming from underground; it is coming from the surface. The removal of the surface (i.e. subjacent support) occurred at the time the Cement Plant owned the property. See id. Thereafter, the Cement Plant returned the overburden to the area it had mined and then graded and contoured the land to its original slope. See id. The settlement of the ground is not an act of removing subjacent support; it is the after effect of placing residential structures and streets on property where the surface has been strip mined and then reclaimed to pastureland without any subsequent remedial measures taken by the developer or homebuilders to compact or stabilize the soil to support residential infrastructure. See R6 1, 9 lines 4-6 ("I think had it stayed pastureland, we wouldn't be here today.").

Finally, as of 1982, one in ten acres of South Dakota land contains mineral rights reservations by the State. *See supra* note 13. If this Court were to find Appellants' argument that, by virtue of reservation of mineral rights, the State is strictly liable for any and all ground movement on properties to which it possesses mineral rights, the legislature should start making a continuing appropriation now for the various claims that will arise. Money that would normally go to educating South Dakota's children or funding state employee retirements would be reduced for the benefit of those who, like the developer, realtor, and homebuilders in this case, will likely be well aware of the ground issues on the property they are purchasing. Permitting Appellants to move forward in this

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 $^{^{13}}$  As Appellants' expert refers to settlement as seasonal swelling or slumping of .9 inches to one inch depending on moisture. See APP 32  $\P$  161; R5 205 lines 3-21.

matter is not only lacking a basis under the law of inverse condemnation, but it would be an unprecedented shift of liability in tort, as well.

Regardless of the State's surface mining activities or its reservation of mineral rights, no cause of action exists. This Court should affirm the circuit court's dismissal of this case.

#### CONCLUSION

The Cement Plant reclaimed its property to its prior use as pastureland before selling it to a purchaser who used the property as pastureland for a number of years. It was the homebuilders and their realtor who purposefully hid the presence of prior mining on the property from those who purchased homes in Hideaway Hills.

Judge Strawn appropriately dismissed Appellants' case based on sovereign immunity because they stated no viable inverse condemnation claim and their true cause of action was that of tort. Furthermore, this Court must affirm Judge Strawn's summary judgment for Appellees if any basis exists to support his ruling; for which there are many.

The Cement Plant's mining is not a public use, nor did its reservation of mineral rights convert the State's obligation into a public use. The Cement Plant's mining was for a commercial purpose akin to a private actor and not pursuant to a public work.

Additionally, the State previously acquired the right to mine the property and damage the surface when it purchased the property. The alleged damage to the property occurred when the State owned the property. All other property owners thereafter are subsequent purchasers without a right to compensation. Appellants also cannot demonstrate foreseeability in this matter, and the subsequent bad actors constitute a superseding and intervening cause of the Appellants' damages. Appellants' cause of

action is also barred by the statute or repose, which expired long before 2020. The circuit court also properly denied Appellants' summary judgment motion for reasons thoroughly explained.

Appellants' true cause of action, as demonstrated by their request for summary judgment, is that of tort, because they cannot succeed in an inverse condemnation cause of action. The State possesses sovereign immunity over Appellants' tort claim and therefore the circuit court properly dismissed this case, and this Court should affirm the dismissal.

Dated this 31st day of March, 2025.

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### CERTIFICATE OF SERVICE

Terra M. Larson of May, Adam, Gerdes & Thompson LLP hereby certifies that on the 31st day of March, 2025, she filed an electronic copy via Odyssey File and Serve of the foregoing Appellees' Brief and appendices (noting there is not one) in the abovecaptioned action and served Appellants by mailing a copy of the foregoing to

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#### CERTIFICATE OF COMPLIANCE

Terra M. Larson, counsel for Appellees, hereby certifies that the foregoing Brief of Appellee complies with the type volume limitation as prescribed by this Court's Order Granting Joint Motions for Additional Words in Appellants' Opening Brief and Appellees' Responsive Brief and Extending Time for Both Parties dated December 27, 2024. This brief contains 14,632 words, exclusive of the Table of Contents, Table of Authorities, Jurisdictional Statement, Statement of Legal Issues, Appendix, Certificate of Service, and Certificates of Counsel. Counsel relied on the word and character count of Microsoft Word, word processing software, used to prepare this Brief at font size 12, Times New Roman, and left justified.

Dated this 31st day of March, 2025.

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# IN THE SUPREME COURT

### OF THE

### STATE OF SOUTH DAKOTA

Appeal	No.	#30899

ANDREW MORSE and JOHN and EMILY CLARKE, for themselves and on behalf of all similarly situated individuals,

Appellants,

V.

STATE OF SOUTH DAKOTA and/or the SOUTH DAKOTA COMMISSION OF SCHOOL AND PUBLIC LANDS, as successor to the SOUTH DAKOTA CEMENT PLANT COMMISSION and the SOUTH DAKOTA CEMENT PLANT

Appellees.

Appeal from the Circuit Court, Fourth Judicial Circuit Meade County, South Dakota The Honorable Eric Strawn, Presiding

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### INTRODUCTION

Defendant-Appellees' response brief misstates the law and fails to meaningfully respond to Plaintiff-Appellants' primary arguments. This Court should reverse the Circuit Court's grant of summary judgment to the State on sovereign immunity. It should also either grant summary judgment to Plaintiffs on liability and remand for a trial on damages, or in the alternative, provide a clear explanation of governing law to guide the Circuit Court on remand.

## **ARGUMENT**

Throughout its brief, the State ignores binding precedents from this Court that dictate the outcome of this case. In particular, Long v. State and Rupert v. City of Rapid City preclude summary judgment for the State and illustrate why summary judgment for Plaintiffs on liability is appropriate.

## I. Rupert and Long control this case.

In Rupert, Rapid City treated its streets during the winters with deicer, which ran onto the Ruperts' land and killed trees. Rupert v. City of Rapid City, 2013 S.D. 13, ¶¶ 1-2. Rapid City persisted despite repeated complaints. Id. The Ruperts sued for trespass, negligence, and inverse condemnation. Id. The trial court held that sovereign immunity precluded the trespass and negligence claims, but granted summary judgment to the Ruperts on their inverse condemnation claim. Id. at ¶¶ 3, 5.

This Court affirmed summary judgment for the Ruperts on inverse condemnation. It specifically held that the State's use of deicer was an exercise of its eminent domain power because it was using the trees for a public use. Id. at ¶¶ 7, 9, 43-44 (quoting Krier v. Dell Rapids Twp., 2006 S.D. 10, ¶¶ 21, 23). Because that use damaged the Ruperts' land, South Dakota's Taking and Damages Clause required compensation. Id. At the same time, this Court dismissed the tort claims, reasoning that a government entity's exercise of the eminent domain power "cannot be made the basis of an action of trespass or of any other action sounding in tort." Id. at ¶ 42 (quoting 6 Nichols on Eminent Domain § 24.06(5)(a)). "Inverse condemnation, rather than trespass, is the appropriate theory for granting damages to an injured landowner where the trespasser is cloaked with the power of eminent domain." Id. (quoting Tuffley v. City of Syracuse, 442 N.Y.S.2d 326, 330 (1981)) (cleaned up).

Here, the State argues that tortious acts cannot be an exercise of the eminent domain power. Id. But that is precisely backwards. Rupert held that since Rapid City's actions were an exercise of the eminent domain power, they could not be tortious: because "the City's actions constituted a 'damaging," those actions "cannot be deemed 'tortious' or in violation of any 'duty' that is necessary to support a tort." Id. at ¶ 43. Therefore, the Rupert Court decided that the government action's status as a "damaging" precluded

the possibility of recovery under a tort theory—not vice versa, as the State would have this Court do here. *Id.* at ¶ 44.

In Long, a majority¹ of the justices of this Court reaffirmed Rupert and expressly rejected the arguments the State is trying to resurrect here. In 1949, the State built Highway 11 with culverts to prevent flooding the Spring Creek Tributary Basin and a sub-basin. Long v. State, 2017 S.D. 79, ¶ 2. Over the next several decades, homes were built in the sub-basin. Id.; Brief of Appellants at 6–7, id., 2015 WL 13653037, (No. 27368); Oral Argument at 2:20-3:00, id. (No. 27368). In 2009, the State resurfaced the highway and improved the culverts. Id. at ¶ 5. Shortly after the project was completed, a heavy rain overwhelmed the culverts and flooded the homes in the sub-basin. Id. at ¶ 7.

The sub-basin's homeowners sued for trespass, negligence, and inverse condemnation. *Id.* at ¶ 8. Following *Rupert*, they dropped their tort claims. *Id.* at ¶ 9. The trial court held the State liable in inverse condemnation. *Id.* at ¶¶ 10-11, 14. The State appealed, arguing that the plaintiff-landowners' inverse condemnation claim was barred by sovereign immunity because it was "really" a tort claim—the same argument it makes here. *Id.* at ¶¶ 15-16.

This Court affirmed, reasoning that the theory of recovery determined the availability of the sovereign immunity defense: "Because there were not

¹ Justice Zinter, concurring specially, agreed with the majority opinion's analysis. *Long*, 2017 S.D. at ¶¶ 58-59 (Zinter, J., concurring).

any tort claims pending, the State cannot raise the affirmative defense of sovereign immunity." *Id.* at ¶ 17. Further, as *Rupert* said, "Article VI, § 13 of the South Dakota Constitution 'essentially abrogates sovereign immunity" for exercises of the eminent domain power (i.e. takings and damagings). *Id.* (quoting *Rupert*, 2013 S.D. at ¶ 43).

Reasoning that the State's "negligent" drainage design caused the homeowners' flood damage, the majority held that since an exercise of the eminent domain power cannot be tortious, the only question was whether the State had satisfied the elements of inverse condemnation. Id. at ¶ 20 (citing Rupert, 2013 S.D. at ¶ 43). "[R]ecognizing the similarities between inverse condemnation and tort claims," this Court reasoned that the State "knew, or should have known, that obstruction of the Spring Creek Tributary, absent adequate drainage, would cause flooding." Id. at ¶¶ 33-34. The Court fleshed out its eminent domain analysis by looking to general principles of property law. Id. at ¶ 31. Finally, eschewing a "specific intent" mental state requirement for inverse condemnation cases, the majority held the State had inadvertently (or at least unintentionally) committed a damaging. Id. at ¶¶ 12, 51.

# II. Sovereign immunity does not bar Plaintiffs' inverse condemnation claim.

The heart of this case is the apparent tension between two principles:

(1) sovereign immunity protects the State from liability for its torts, and (2)

Article VI, § 13 of the South Dakota Constitution abrogates sovereign

immunity for exercises of the eminent domain power. The State wants to resolve this apparent tension by redefining inverse condemnation claims as tort claims anytime the claims rely on property and tort concepts to establish that the government committed an unprivileged invasion of the plaintiffs' property rights. But *Rupert* and *Long* already resolved the tension the other way around: any government conduct that constitutes a taking or damaging is, by definition, not a tort.

A. The South Dakota Constitution abrogates sovereign immunity for all takings and damagings.

In Long, the dissent and the majority agreed on these principles but disagreed on how to resolve the apparent tension. Like the State here, the Long dissenters wanted a two-step analysis: (1) is this claim "really" a tort; and if not, (2) does it satisfy the elements of inverse condemnation? Long, 2017 S.D. at ¶¶ 66-67 (Gilbertson, C.J., dissenting). The majority found the inquiry to be much simpler, discarding the first step because if government conduct is a taking or damaging, Section 13 of Article VI has abrogated sovereign immunity for it. Therefore, the only question is whether the government has committed a taking or a damaging. If so, sovereign immunity cannot apply. Id. at ¶ 17 (citing Rupert, 2013 S.D. at ¶ 43).

The Long majority's approach is consistent with the accepted law of this state. This Court has never analyzed an inverse condemnation claim by first asking whether the government committed a tort. Even the cases the State cites from other jurisdictions support this Court's and the Plaintiffs'

approach. Henderson v. City of Columbus, 827 N.W.2d 486, 488-90 (Neb. 2013) (holding an inverse condemnation claim failed because the government-inflicted damage was not "for public use"); Chavez v. City of Laramie, 389 P.2d 23, 24-25 (Wy. 1964) (holding that the distinction between torts and inverse condemnation turns on the definition of "public use").

Moreover, because any lawful exercise of the eminent domain power cannot be a violation of a tort duty, the State here did not tortiously violate its duty to provide subjacent support to Plaintiffs' surface land. Instead, the discussion *infra* regarding the State's violation of its duty to provide subject support shows that, by dint of its eminent domain power, the State took or damaged Plaintiffs' land by depriving them of their rights to lateral and subjacent support. That taking or damaging warrants a constitutional remedy.

B. Plaintiffs raised an inverse condemnation claim, not a tort claim.

Accordingly, Plaintiffs agree that they must adduce evidence to satisfy each element of inverse condemnation. But the State's characterization of Plaintiff's argument—"if a cause of action is really a tort, but a public entity is the alleged tortfeasor, that [the plaintiff] can simply refer to a cause of action as inverse condemnation to work around sovereign immunity"—is inaccurate and unfair. Appellees' Brief at 21. Plaintiffs merely pointed out that conduct that would be a tort if committed by a private entity can be a taking or damaging if committed by a government entity for a public purpose.

Appellants' Brief at 30-32; see also Long, 2017 S.D. at ¶ 40 (recognizing "the similarities between inverse condemnation and tort claims").

Long and Rupert belie the State's claim that Plaintiffs are "really" raising a tort claim. In both cases, this Court took inverse condemnation claims at face value as inverse condemnation claims and analyzed them under eminent domain law, refusing to treat them as tort claims even though plaintiffs borrowed tort concepts to establish that their private property rights had been invaded.

For example, Long specifically noted that the homeowners initially raised trespass and negligence claims. Likewise, Plaintiffs here initially raised trespass and negligence claims. R. vol. 1, pp. 154-55.² Like the plaintiff-landowners in Long, Plaintiffs dropped their tort claims. As in Long and Rupert, then, this Court should evaluate the inverse condemnation claim rather than construe it as a tort claim. "Because there [are] not any tort claims pending, the State cannot raise the affirmative defense of sovereign immunity." Long, 2017 S.D. at ¶ 17.

Long and Rupert simply followed longstanding legal principles. As one of the State's own cited cases says, "The State cannot change the nature of

² The Clerk of Court of Meade County rebundled the record to correct a technical error that resulted in omission of certain pages of the record. This brief cites to the rebundled record.

the claim in order to oust a court of jurisdiction." Benson v. State, 2006 S.D. 8, ¶ 21. "Jurisdiction depends on the pleadings and the prayer for relief and the test for determining jurisdiction is ordinarily the nature of the case, as made by the complaint, and the relief sought." Id. (quoting Elliott v. Bd. of Cnty. Comm'rs of Lake Cnty., 2005 S.D. 92, ¶¶ 16-17) (cleaned up) (emphasis added).

The State cites Adrian v. Vonk, 2011 S.D. 84, arguing that this Court upheld a sovereign immunity argument in a case involving an inverse condemnation claim. In Adrian, ranchers sought compensation for harm inflicted on their land and crops by prairie dogs, which duly enacted South Dakota statutes required the State to control. Id. at ¶ 10. But Adrian was all about whether or not the State had expressly waived sovereign immunity. The plaintiffs' inverse condemnation claim was not even mentioned in the

³ For the contrary proposition, the State relies on Nichols on Eminent Domain § 14.245(1). Appellees' Brief at 16. The State indiscriminately cites Nichols throughout its brief, but those citations are unpersuasive. Especially when they discuss *limitations* on what constitutes a compensable taking or damaging, because South Dakota's Taking and Damages Clause was written expansively: "the damages cluse provides greater protection to property owners than the United States Constitution by requiring that the government compensate a property owner not only when a taking has occurred, but also when private property has been damaged." Hamen v. Hamlin Cnty., 2021 S.D. 7, ¶ 17 (quoting State ex rel. Dep't of Transp. v. Miller, 2016 S.D. 88, ¶ 39) (internal quotation marks omitted); see also Searle v. City of Lead, 73 N.W. 101, 103 (S.D. 1897); Jeffrey S. Sutton, 51 Imperfect Solutions: States and the Making of American Constitutional Law 16, 177 (2018) (concluding that sometimes "state constitutional law [will] demand a different answer from federal constitutional law based on local language, context, and history.").

opinion, presumably because—as the State argued in its briefs to the trial court and this Court and at oral argument before this Court—it was rejected out of hand as a "wildlife taking" theory that simply cannot support an inverse condemnation claim. Brief of Appellees at 8-9, id., 2011 WL 7005040.

Thus, contrary to the State's argument, the inverse condemnation claim in Adrian fell on its own merits. It was not displaced by the doctrine of sovereign immunity. Moreover, in Adrian, the State did not raise its "really a tort" argument. Therefore, Adrian does not support the State's position, either explicitly or implicitly.

C. Long is not distinguishable from this case.

The State wrongly attempts to distinguish Long. As the State notes, it challenged the trial court's summary judgment ruling in Long after liability and damages were decided against the State at trial. Appellees' Brief at 19. This is important, says the State, because "the plaintiffs were still alleging tort claims against the State," unlike here. Appellees' Brief at 19. But the State never explains why that would matter. The assertion of alternative tort claims wouldn't undermine a separate takings claim; it would simply expose the tort claims to a defense of sovereign immunity. Besides, the plaintiff-landowners in Long abandoned those tort claims long before the case reached this Court. Long, 2017 S.D. at ¶ 17 ("Because there [are] not any tort claims pending, the State cannot raise the affirmative defense of sovereign immunity." (emphasis added)).

The State also incorrectly claims the arguments it raises now were not raised or addressed in Long. In Long, the State claims, it only argued that the plaintiff-landowners' claims were "excluded under the State's risksharing pool pursuant to SDCL § 21-32A-2." Appellees' Brief at 19. But as the State expressly admitted, the risk-sharing pool exception argument only makes sense if the State was also asserting that the plaintiff-landowners' claims were actually tort claims barred by sovereign immunity: "Sovereign immunity is waived only to the extent of participation in a risk-sharing pool or the purchase of liability insurance." Brief of Appellants at 8, 10, Long, 2017 S.D. 79, 2015 WL 13653037 (No. 27368). At oral argument, both advocates and the Court expressly understood that the premise of the risksharing pool exclusion argument was that the inverse condemnation was "really" a tort claim. Oral Argument at 6:20-7:15, 22:40-23:05, 24:05-27:03, 48:05-20, id. (No. 27368). This Court rejected that premise. Id. at  $\P$  20 "Landowners properly dismissed their tort claim and their recovery was limited to just compensation.").

There is an aspect of the State's "really a tort" argument that gives it intuitive appeal: a plaintiff should not be allowed to plead facts and elements of one cause of action but label it as a different cause of action. This insight properly recognizes that the purported cause of action should not prevail simply because a plaintiff has pled and proved the elements of a different cause of action. But that is not what Plaintiffs did here. Here, as discussed

in the next section, Plaintiffs pled and proved the elements of a cause of action for inverse condemnation. R. vol. 1, pp. 6-22.

* * * * *

Because the South Dakota Constitution abrogates sovereign immunity for takings and damagings, Plaintiff's inverse condemnation claim is not barred by sovereign immunity.

## III. Plaintiffs have established a valid inverse condemnation claim.

Next, the State argues that Plaintiffs' claims fail because they do not satisfy the elements of inverse condemnation. Below, Plaintiffs adduced evidence of each element of their inverse condemnation claim: the State (1) took or damaged (2) private property (3) for public use and (4) without just compensation. S.D. Const. Art. VI, § 13. The State relies on legal arguments this Court rejected in *Long* to argue otherwise. The State's factual arguments are also wrong. Therefore, this Court should grant summary judgment to Plaintiffs on liability.

## A. Taking/Damaging

The State claims it neither took nor damaged Plaintiffs' property, even thought its mining activities and faulty reclamation directly caused the ongoing subsidence. The State also contends that when it sold the surface estate, it retained the right to inflict damage on the surface. It asserts that only physical invasions can constitute a taking/damaging, and believes that proximate causation for inverse condemnation is measured at the time of the

State's actions rather than at the time the damage occurred. And it muddles the law of subjacent and lateral support. All of this is wrong.

1. The State proximately caused Plaintiffs' properties to subside.

Proximate cause is an element of inverse condemnation, and Plaintiffs have proved it. The State argues that Plaintiffs cannot show proximate causation because (1) the Cement Plant could not have foreseen that the surface it sold to Mr. Fuss would be developed and (2) development was the superseding cause of Plaintiffs' damages. Appellees' Brief at 33-36 (citing Long, 2017 S.D. at ¶ 62 (Gilbertson, C.J., dissenting)). The former is irrelevant and both are wrong.

First, under Long, "foreseeability" for proximate cause in the inverse condemnation context is measured at the time the damage occurs.

"[F]oreseeability for purposes of establishing a duty is not invariably the same as the foreseeability relevant to causation. The latter essentially is to be viewed as of the time when the damage was done while the former relates to the time when the act or omission occurred." Id. at ¶ 27 (majority opinion) (citation and internal quotation marks omitted). Here, then, the question is whether the damage to Plaintiffs' land was reasonably foreseeable at the time the damage occurred, not at the time the State mined and reclaimed the property or the time it sold the subsurface rights. Just as the development of the sub-basin following State action in Long was not a superseding cause of the flooding damage, the development of Hideaway Hills following the State's

mining and faulty reclamation was not the proximate cause of Plaintiffs' damage here.

Second, even in 1993, the Cement Plant should have known that the surface land would be developed. The State claims that "at the time [the Cement Plant] was told [by the appraiser] that the area could not be developed because there was no utility access, and it was right next to a sewage lagoon." Appellees' Brief at 35. That is misleading. The appraisal itself says that "[n]o physical conditions exist which would preclude development, although the lack of full utility services would omit some forms of development such as residential subdivision." R. vol. 5, p. 300. Therefore, it concluded that "financial feasibility is limited to a residential ranchette." R. vol. 5, p. 302 (emphasis added). But Black Hills is—and was at that time—a growing suburb of Rapid City. As soon as utility service reached the suburbs, the only obstacle to development identified by the appraisal was gone. That was predictable and borderline obvious.

Finally, the State says they expected Mr. Fuss (and his successor surface owners) to follow the law by disclosing the existence of historical mining activity to anyone who might buy the land. And they claim they had a right to expect this. But contrary to the State's assertion, the law of proximate causation does not assume that third parties will follow the law. Koenig v. London, 2021 S.D. 69, ¶ 29. And the financial incentives to not

disclose were, as anyone could have foreseen, quite powerful. Therefore, development was foreseeable and not a superseding cause.

2. The State can effect a taking or damaging without causing a physical invasion.

The State asserts that only physical invasions can constitute a taking or damaging. Appellees' Brief at 23, 26. That is wrong. Citizens "may claim compensation for the destruction or disturbance of easements of light and air, and of accessibility, or of such other intangible rights as he enjoys in connection with and as incidental to the ownership of the land itself." *Hurley v. State*, 143 N.W.2d 722, 725 (S.D. 1966). "[I]t is not required 'that the damage shall be caused by a trespass or an actual physical invasion of the owner's real estate." *Rupert*, 2013 S.D. at ¶ 10.

3. The State lost the right to damage the surface when it sold the surface estate.

The State claims that when it bought the property from Mr. Stensaas, it acquired the right to inflict damage on the property in perpetuity.

Appellees' Brief at 24. On this point, it wrongly relies on Hannaher v. St.

Paul, Minneapolis and Manitoba Railway Company, 37 N.W. 717 (S.D. 1888).

In Hannaher, a railroad condemned and paid for a portion of the plaintiff's land to build a railroad. Id. at 717, 717-18. Railroads had to be built on elevated embankments and protected by drainage ditches and culverts. Id. The plaintiff, whose remaining land flooded as a result, sued for negligence but conceded the construction "was done in the usual and ordinary manner, with the usual and ordinary care and skill." Id. at 720. Therefore,

and because the railroad's rights acquired by condemnation necessarily included the right to deflect water from the railroad to the plaintiff's remaining lands, the court concluded that the plaintiff could not recover.

Long, 2017 S.D. at ¶ 18 (citing Hannaher, 37 N.W. at 717-18).

Here, Hannaher does not apply because it was a negligence case and because, unlike the Cement Plant, the railroad in Hannaher never resold any of the property it acquired from the plaintiff-landowner. The State essentially argues that as a prior surface owner, it retains an indefinite right to damage the surface estate even after selling it. But the law is clear—when an owner severs the subsurface property rights from the surface property rights, the subsurface owner remains liable for any failure of the subsurface to support the surface unless the deed expressly disclaims the support obligation. See Gabrielson v. Cent. Serv. Co., 5 N.W.2d 834, 837 (Iowa 1942). That disclaimer must be "expressly included in the deed." Graham v. Drydock Coal Co., 667 N.E.2d 949, 953 (Ohio 1996); see also Walsh v. Kansas Fuel Co., 137 P. 941, 942 (Kan. 1914). In the State's deed to Mr. Fuss, no such express reservation was made. R. vol. 5, p. 690. Therefore, the State no longer has any right to damage Plaintiffs' surface estate.4

⁴ The State's arguments that it gave notice of the mining activities to Mr. Fuss are completely irrelevant. Liability continues unless there is an explicit disclaimer, whether or not subsequent purchasers had notice is irrelevant.

4. The State is strictly liable for withdrawing lateral and subjacent support.

A damaging occurs when "no part of an owner's land is taken" but State action on nearby property nonetheless "cause[s] damage to an owner's land." Rupert, 2013 S.D. at ¶ 9 (quoting Krier v. Dell Rapids Twp., 2006 S.C. 10, ¶¶ 21, 23). But only such consequential damage as constitutes a "legal injury" is compensable. Such "legal injury" must be defined with reference to traditional property and tort law concepts. See Long, 2017 S.D. at ¶¶ 31, 40.

Under those traditional property and tort law concepts, when ownership of land is split into surface and subsurface (including mineral) estates, "the owner of the surface has an absolute right to necessary support for his land." Collins v. Gleason Coal Co., 115 N.W. 497, 498 (Iowa 1908). Contrary to the State's argument, the rules for subjacent and lateral support are nearly identical. Compare Restatement (Second) of Torts §§ 820-21 (Am. L. Inst. 1979), with §§ 817, 819; see also Marin Municipal Water Dist. v. Northwestern Pac. RR Co., 253 Cal. App. 2d 83, 89 (Ct. App. 1967) (citing secondary authorities). This Court has primarily been presented with opportunities to apply these rules to lateral support cases, but has never suggested the rules are different for subjacent support cases.

"One who withdraws the naturally necessary subjacent support . . . is subject to liability for the subsidence" of the surface land. Restatement (Second) of Torts § 820(1). The liability extends to "harm to artificial additions that results from the subsidence." § 820(2). The subsurface owner

can escape strict liability and force the surface owner to prove a lack of reasonable care by proving that the subsidence would not have occurred but for the weight of the artificial additions (i.e. improvements) on the surface. §§ 820 cmt. d, 821(1)-(2).

Here, the State repeatedly mentions the development of the Hideaway Hills subdivision. E.g. Appellees' Brief at 35-36. But nowhere does the State point to any evidence that the subsidence would not have occurred but for the weight of the artificial additions. See Restatement (Second) of Torts §§ 820 cmt. d, 821(1)-(2). In addition to the legal presumption that the surface land would have subsided regardless of the addition of artificial structures, the only evidence on this issue is Plaintiffs' expert testimony that the land would have subsided regardless of development. As geologist Brandt Lyman averred, "Settlement of the fill is inherent of the fill section itself, and has occurred and will continue to occur regardless of the land use or occupancy by structures or infrastructure." R. vol 4, 42-50. Therefore, the subsequent development of Hideaway Hills should have no bearing on this Court's analysis of foreseeability, even if foreseeability were measured at the time of reclamation.

# 5. The statute of repose has not expired.

The State says that the 20-year statute of repose applies and bars Plaintiffs' claims here. That is incorrect for at least two reasons.

First, Section 15-3-1 is a statute of limitations, not of repose. E.g.Underhill v. Mattson, 2016 S.D. 69, ¶ 18 ("[H]e did not acquire Lots 59 and 60

until 2012—long after the 20-year statute of *limitations* had expired on Defendants' adverse possession of the Property." (emphasis added)).

Second, under the law of subjacent and lateral support, the "statute of limitations does not begin to run until a subsidence occurs." Restatement (Second) of Torts § 820 cmt. i; see also Ambrosia v. Land Investments, LLC v. Peabody Coal Co., 521 F.3d 778, 785 (7th Cir. 2008). Here, the subsidence began occurring at the earliest in 2008—less than twenty years before this lawsuit was filed in 2020—when sinkholes and settling began to be observed.⁵ R. vol. 5, p. 120.

6. The State tries to redefine its lateral and subjacent support duties.

First, the State claims it owns only the minerals, not the subsurface generally. Appellees' Brief at 43-44. This is true but irrelevant. According to the deed, the State reserved "all deposits of coal, ores, metals and other minerals, asphaltum, oil gas, geothermal resources, and other like substances in such land (except sand and gravel)." R. vol. 5, p. 690. Gypsum is a mineral. See S.D.C.L. § 45-6C-3(7). Hence, the State undisputably owns the

⁵ Even if the statute of limitations began to run in April 2004, when Kuchenbecker's equipment uncovered a large void, the statute of limitations did not expire before Plaintiffs filed this action in October 2020. Appellees' Brief at 10; R. vol. 1, p. 1. Notably, the State points out that Kuchenbecker bored beneath the houses' future locations and found no more voids. Appellees' Brief at 10.

gypsum underneath Plaintiffs' surface land. And it is that gypsum which is dissolving and causing the subsidence.

Second, the State's claim that it does not own the empty space left behind by the dissolving gypsum can only be taken as facetious. It is the very removal of subsurface minerals that necessitates the installation of artificial support for the surface. E.g., Ohio Collieries Co. v. Cocke, 140 N.E. 356, 360-61 (Ohio 1923) (noting that a subsurface owner must replace removed coal deposits with artificial supports to satisfy his obligation to provide subjacent support to the surface estate). The idea that the coal owner does not have to provide any support after removing his coal because he "doesn't own the empty space" is preposterous. Abundant caselaw contradicts the State's absurd premise. E.g., Ohio Collieries Co., 140 N.E. at 360-61; Winnings v. Wilpen Coal Co., 59 S.E.2d 655 (W.V. 1950).

Third, the State argues that Plaintiffs' surface estate is not entitled to subjacent support because it is not in its natural condition. Appellees' Brief at 46-47. After all, says the State, we destroyed and then recreated the surface estate by digging a pit mine and then filling it in again. Appellees' Brief at 47. But if "land in its natural condition" means land never altered by human intervention, the instant a shovel touches the surface land, the right to subjacent support would cease to exist. That is not the law. "Land in its natural condition" simply means land "without the superadded weight of

improvements." Ulrick v. Dakota Loan & Tr. Co., 49 N.W. 1054, 1055 (S.D. 1891), overruled on other grounds by Long v. Collins, 82 N.W. 95 (S.D. 1900).

Besides, the State sold the surface estate. And if the State could legally destroy the very surface estate it sold, what was it really selling? Nothing at all. That is why, even for developed surface land, the subsurface owner remains liable for any failure of the subsurface to support the surface unless the deed expressly disclaims the support obligation. See Gabrielson, 5 N.W.2d at 837; Graham, 667 N.E.2d at 953; Walsh, 137 P. at 942.

Fourth, the State argues that Plaintiffs can only sue Dakota Plaster because Dakota Plaster's underground tunnels caused the subsidence, not the State's pit mining, faulty reclamation, and blasting. That is wrong, factually and legally.

The State's argument is factually wrong because the true cause of the subsidence is the State's improper reclamation of the property with gypsum-infused backfill. Contrary to the State's claim, Plaintiffs' experts testified that the primary threat to their properties is the State's improper reclamation work. R. vol. 4, pp. 4249-50; vol. 6, p. 358. That is because the State's replacement of the soil with loose gypsum created the conditions for erosion and collapse regardless of the weight of Plaintiffs' houses. R. vol. 4,

⁶ It was the State's mining and reclamation activities—not any minor grading that took place during development—that placed pulverized gypsum over thirty feet deep. See R. vol. 4, pp. 4011-97.

pp. 4242-43; vol. 6, p. 358; see also Restatement (Second) of Torts § 820 cmt. d (noting that the weight of "artificial additions is generally slight compared with the weight of the supported land"). Besides, in its summary judgment briefing below, the State admitted "for the purposes of this motion" that "fill' is in every location Plaintiffs alleged." R. vol. 5, p. 88.

The State argues that the sinkholes on East Daisy resulted from prior underground mining operations and that the State never engaged in underground mining. Appellees' Brief at 14 & n3. This is part of the State's persistent refusal to confront the expert testimony that shows the true cause of the subsidence is primarily the State's faulty reclamation and marginally its blasting—not the underground mines created by Dakota Plaster and its predecessors. The evidence contradicts the State's deliberate unbelief.

According to the State, Plaintiffs' experts conceded that the subsidence would have occurred even if the State never mined or reclaimed the property. Appellees' Brief at 40. But they cite a page of a deposition transcript that says nothing of the kind and only talks about boring holes. R. vol. 5, p. 198. In fact, that deponent, geologist Brandt Lyman testified that the Cement Plant's gypsum-infused backfill was spread throughout the property, caused the subsidence, and would have caused the subsidence regardless of whether any structures had ever been built. R. vol. 6, pp. 349, 358-59; vol. 4, pp. 4249-50. He specifically testified, "I don't believe that [the Plaintiffs] would be in

the same situation that they're in now if the State would not have mined that property." R. vol. 6, pp. 359.

The pit mining and faulty reclamation was not the only State conduct that is contributing to the subsidence. As a State employee conceded under oath, the State "at one time or another affected all of the land within the" State's property line. R. vol. 4, pp. 4113, 4133, 4136; vol. 6, p. 347. Geological testing showed the State likely mined further north than it admits. R. vol. 4, pp. 4428-35. And a State employee testified that the Cement Plant blasted around the old underground tunnel mine to see if there was still enough gypsum there to be worth mining. R. vol. 5, pp. 61, 107; vol. 4, pp. 4150-52, 4175-89; Appellees' Brief at 5. Plaintiffs' experts concluded that this blasting opened the underground mine to water intrusion that caused erosion, thereby creating subsidence that would not have otherwise occurred. R. vol. 4. P. 4424.

Since the "burden is placed on the defendant actor of introducing evidence that the land would not have subsided if there had been no artificial additions on it," and the State has adduced no such evidence, it cannot prevail on this point. Restatement (Second) of Torts § 820 cmt. d.

The State's argument is legally wrong because South Dakota law holds current subsurface owners liable for withdrawals of subjacent and lateral support caused by their predecessors in interest—at least when they fail to properly maintain the support left behind by a previous landowner. See

Salmon v. Peterson, 311 N.W.2d 205, 206 (S.D. 1981). In Salmon, a landowner graded his land and built a retaining wall to uphold the neighbor's property. Id. at 205-06. After the property changed hands, the retaining wall collapsed. Id. at 206. This Court held that "the burden of providing lateral support to the plaintiff's land in its natural condition is one of continued support running against the servient land." Id. (quoting Gorton v. Schofield, 41 N.E.2d 12, 15 (Mass. 1942)). As a result, a subsequent landowner is subject to liability for withdrawals of support caused by previous landowners. See id. at 207. Therefore, the State is liable for failing to provide and/or maintain proper support withdrawn by prior mining operations.

The State admits *Salmon* stands for this proposition but tries to limit it to lateral support cases. Appellees' Brief at 40. There is no principled reason for doing so. And, as discussed above, the rules governing liability for subjacent and lateral support are nearly identical.

Fifth, the State claims its only obligation was to satisfy reclamation standards.⁸ Appellees' Brief at 41. Not so. The duty to reclaim under mining

⁷ Liability is tied to land ownership, not merely to action that causes the withdrawal. *Ulrick*, 49 N.W. at 1055 (holding a landowner liable for damage caused by his independent contractor).

⁸ The State insists that it met its reclamation requirements and never engaged in "underground mining." The latter is irrelevant. The former ignores the fact that the duty to provide subjacent and lateral support arise from the common law (not mining reclamation statutes).

regulations and statutes and the duty to provide subjacent and lateral support are distinct. Plaintiffs' inverse condemnation claim is not based on any statute or regulation, so the State's focus on whether it is bound by Chapter 45-5A is a red herring—especially since that chapter expands and clarifies liability for mining-related activities and "does not preclude any person from seeking other remedies allow by law." § 45-5A-10. Moreover, the evidence shows the State engaged in mineral development when it blasted around the old Dakota Plaster underground tunnel mines to see if there was enough gypsum there to take.

In any event, under § 13 of Article VI, there "is no magic formula that enables a court to judge, in every case, whether a given government interference with property is a taking." Long, 2017 S.D. at ¶ 23 (cleaned up). Given that what constitutes a taking or damaging depends "upon situation-specific factual inquiries," id., it is appropriate to conduct that inquiry through the lens of the official policy of South Dakota as expressed by its people through their legislature. That policy favors compensation for landowners for the damage accruing from mining-related activities. South Dakota's official policy therefore supports a finding that a compensable taking and damaging occurred under the specific facts of this case.

### B. Private Property

The State claims that Plaintiffs lack standing because the right to recover for a taking/damaging "is not passed to a subsequent purchaser." Appellees' Brief at 27 (citing Johns v. Black Hills Power, Inc. 2006 S.D. 85,

¶ 12). This is wrong because liability does not accrue until the subsidence actually occurs. Hence, no taking or damaging occurs until the damage is actually incurred, and the damage is occurring right now. Therefore, the Plaintiffs have standing and are not subsequent purchasers.

### C. Public Use

The State says the withdrawal of subjacent and lateral support of Plaintiffs' surface land is not a taking or damaging for public use because it does nothing but destroy their land. Appellees' Brief at 32. Arguing that "public use" is a term of art, the State proceeds to claim that the term does not include mining for gypsum because the Cement Plant was a proprietary enterprise and because the public had no right to access the mine while it was operating. Appellees' Brief at 29-33. These arguments cannot withstand scrutiny.

1. "Public use" is broader than "the general public's right to use."

The State says that "public use" is a "term of art." Appellees' Brief at 31. True, but the State wrongly limits its definition.

According to the State, "public use" means "use or right of use on the part of the public or some limited portion of it." Appellees' Brief at 29 (quoting *Illinois Central RR. Co. v. E. Sioux Falls Quarry Co.*, 144 N.W. 724, 728 (S.D. 1913)). But the cases the State cites are cases in which "a taking from one private party . . . will ultimately go to another private party." Benson v. State, 2006 S.D. 8, ¶ 42; see also, e.g., Illinois Central, 144 N.W. at

728 (applying inverse condemnation law to a taking by a railroad); Frawley Ranches, Inc. v. Lasher, 270 N.W.2d 366 (S.D. 1978); Great Northern Ry. Co. v. Chicago, St. Paul, Minnesota & Omaha Ry. Co., 99 N.W.2d 439 (S.D. 1959).

In contrast, the cases cited in Plaintiffs' opening brief illustrate that a landowner need not show the "right of the public to use" their property when the entity exercising eminent domain power is the *government*. That is because when the condemning authority is a government entity, the public use requirement is automatically satisfied.

For instance, when health authorities destroy a commercial elk herd infected by tuberculosis, the destruction of any uninfected elk not "reasonably necessary" to prevent the spread of disease is a taking/damaging. South Dakota Dep't of Health v. Owen, 350 N.W.2d 48, 50-52 (S.D. 1984). There was no mention in Owen that any members of the general public had any right to use the elk. Owen, 350 N.W.2d at 49-50.

Likewise, when the federal government took land to add to the Nevada Test and Training Range (Area 51), a federal court held that the land was taken for "public use." United States v. 400 Acres of Land, No. 2:15-cv-01743-MMD-NJK, 2020 WL 5074255, at *1 (D. Nev. Aug. 27, 2020). That was so even though the federal Takings Clause is less protective of private property rights than the South Dakota Taking and Damages Clause. Hamen v. Hamlin Cnty., 2021 S.D. 7,  $\P$  17.

Thus, just because South Dakotans could not roam freely around the mine during its operation does not mean it was not put to a "public use."

Moreover, the gypsum was used to cure cement used in South Dakota's public road system.

Only by showing that a government seizure or destruction of property was an exercise of a power other than the power of eminent domain can the State successfully argue that the property was not seized or destroyed "for public use." For example, in a prison contraband case, an inmate alleged that pornographic materials seized by the warden were "taken" for "public use." Cody v. Leapley, 476 N.W.2d 257, 258-59 (S.D. 1991). The Court concluded that the State could defend itself by showing the materials and photographs were contraband seized pursuant to the police power. Id. at 260-61. Like the destroyed elk in Owen, these materials were not disseminated to the general public and the public had no right to use them—but if their seizure had not been a justifiable exercise of the police power, it would have been a compensable taking. See id.

Moreover, the cases illustrate that mere destruction of private property by a government entity can be a taking or damaging. In Owen, this Court's recitation of the facts suggested that the elk were destroyed such that no

⁹ This caveat—that the seizure was an exercise of the police power—shows the State's charade of horribles is manufactured. Appellees' Brief at 22 n.7. In nearly all cases, the seizure of inmates' property will be a valid exercise of the police power.

private citizen could use the carcasses. Owen, 350 N.W. 2d at 49-50. Likewise, in Rupert, the plaintiff-landowners' trees were destroyed and nothing in the opinion suggests they were used by anybody, let alone given to members of the general public. Rupert, 2013 S.D. 13. As this Court has explained, "The words 'or damaged' were, without doubt, added to the usual provisions contained in earlier constitutions for the purpose of extending the remedy to incidental or consequential injuries to property, not actually taken for public use, in the ordinary acceptation of that term." Krier, 2006 S.D. at \$\ 23\$ (quoting Searle v. City of Lead, 73 N.W. 101, 103 (S.D. 1897)) (alteration in original). Therefore, "public use" does not invariably require universal public access.

2. The mining and reclamation of Hideaway Hills was a "public use."

The State believes that it can seize land, use it commercially, and not pay the owners. Its brief specifically says that the mining operation at Hideaway Hills was not a public use because "the Cement Plant was engaged in commercial mining operations." Appellees' Brief at 31. That conclusion can only result from a perverse interpretation of the Taking and Damages Clause. And it blatantly contradicts the long line of this Court's precedents that permit the use of the eminent domain power in favor of commercial enterprises such as railroads and utilities.

Although the Cement Plant was a proprietary function, "in pursuing its cement plant operation, the state retain[ed] its sovereign status." *Arcon* 

Const. Co., Inc. v. South Dakota Cement Plant., 349 N.W.2d 407, 410 (S.D. 1984); see also L.R. Foy Const. Co v. South Dakota Cement Plant Comm'n, 399 N.W.2d 340, 347-48 (S.D. 1987). That sovereign power that inherently includes sovereign immunity (except to the extent it is waived) also inherently includes the power of eminent domain.

The use of land to help supply the Cement Plant with raw materials is a public use. This Court has already recognized that "the manufacture of cement, under the conditions existing in the state of South Dakota, is the carrying out of a public purpose." See Eakin v. South Dakota State Cement Comm'n, 183 N.W. 651, 651 (S.D. 1921); see also In re Opinion of the Judges, 180 N.W. 957 (S.D. 1920). South Dakota's Constitution specifically recognizes that the "manufacture, distribution, and sale of cement and cement products are hereby declared to be works of public necessity and importance in which the state may engage." S.D. Const. Art. XIII, § 10. A state entity engaged in mining minerals for use in the curing of cement at the State's own Cement Plant for use in the public road system—or enriching the public coffers by selling cement to private parties—is a quintessential "public use."

Here, the damage Plaintiffs suffered resulted from the Cement Plant's mining and faulty reclamation—in other words, the State's public use of the mineral estate. Moreover, the land still contains gypsum deposits that could be mined in the future if mining technology advances to the point that

extracting those deposits becomes economically viable. The only category that fits the state's actions here is public use. It is certainly not a police power.

3. The Takings and Damages Clause lacks a specific intent requirement.

The phrase "for public use" in Article VI, § 13 does not imbue the Takings and Damages Clause with a specific intent requirement. The State argues that any unintentional damage is necessarily a tort and not a taking or damaging of private property for public use. Appellees' Brief at 17-18. But that—like so many of the State's other arguments—runs headlong into Long. "While intentional conduct occurred in Smith, we did not hold that it was a necessary element for an inverse condemnation claim." Long, 2017 S.D. at ¶ 32. Therefore, although the State did not intend to flood the homes in the sub-basin, it nevertheless committed a damaging. Id.

* * * * *

The State took or damaged Plaintiffs' property for public use without paying for it.

### CONCLUSION

Therefore, Plaintiffs respectfully ask this Court to reverse the Circuit Court and instead grant summary judgment on liability to Plaintiffs.

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# **CERTIFICATE OF COMPLIANCE**

I certify that the Appellants' Reply Brief is within the limitation provided for by this Court's Order Granting Appellants' Motion to Exceed Page Brief Limitation. Appellants' Initial Brief contains 7,495 words.

I certify that the word processing software used to prepare this brief is Microsoft Word 365.

Dated this 16th day of May 2025.

Kathleen R. Barrow Fox Rothschild

## CERTIFICATE OF SERVICE

On this 16th day of May 2025, the undersigned counsel served the above and foregoing Motion upon all counsel of record via the South Dakota Unified Judicial System, Tylerhost electronic filing and by emailing a copy of the foregoing to:

**Defendant-Appellants** the State of South Dakota, the South Dakota Commission of School and Public Lands, and the South Dakota Cement Plant Trust, by and through their counsel listed below.

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