BEFORE THE OIL CONSERVATION DIVISION
EXAMINER HEARING

SPC Resources, LLC
Case No.
22102

Hearing Date
09/09/2021

Caveman #402H
Caveman 7 12 WCD #003H

Eddy County, New Mexico

STATE OF NEW MEXICO
DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES
OIL CONSERVATION DIVISION

IN RE NEW MEXICO OIL CONSERVATION DIVISION'S AMENDED APPLICATION FOR ORDER TO REVOKE ORDER NO. R-21096, AS AMENDED, AND APDS FOR CAVEMAN #402H AND CAVEMAN 7 12 WCD #003H WELLS

CASE NO. 22102

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SELF-AFFIRMED DECLARATION OF HANSON YATES

I, Hanson Yates, of lawful age and being first duly sworn, declare as follows:

1. My name is Hanson Yates, and I am the President and Co-Managing Member of Santo Petroleum LLC (**"Santo"**) and President of its affiliate SPC Resources, LLC (**"SPC"**).

2. I have not previously testified before the New Mexico Oil Conservation Division (**"OCD" or the "Division"**). I am testifying today as a fact witness. I am familiar with OCD's Amended Application and have personal knowledge of the matters addressed in this affidavit.

BACKGROUND ON SANTO, SPC, AND THE CAVEMAN PROJECT

3. In 2010, I co-founded Santo with my father Peyton Yates. Our family was instrumental in the advent of the oil and gas industry in the state and has been investing in the business and employing citizens in New Mexico for almost a century, including through such notable predecessor companies as Yates Petroleum Corporation and Yates Drilling Company.

4. Like these predecessor companies, Santo is family-owned and managed, is headquartered in Artesia and is an excellent corporate citizen that treats employees like family and makes significant contributions to the communities in which we live and operate. Yet, unlike our predecessors, we are much smaller. We currently have only 12 employees and a highly concentrated and small asset base as compared to the large size of Yates Petroleum that at times had hundreds of employees, hundreds of thousands of acres of leases, and thousands of wells. Our

ownership group is a small portion of the broader family that owned both Yates Petroleum and Yates Drilling. It is very important for the Division to understand that Santo's small size makes the Division's proposed actions in this case so critical to the very success or failure of our company.

5. While we are a small independent operator, we have invested substantial private capital in New Mexico oil and gas assets since our founding. In 2017, we established Santo affiliate SPC as a special purpose entity to make a major investment in acquiring oil and gas leases in and around the city of Carlsbad in a project we call the Caveman Project, named after the Carlsbad High School mascot, (**the "Caveman Project" or the "Project"**). The Caveman Project is by far the largest and most time-consuming investment our company has made. While we are a private entity that does not publicly disclose financial performance or investment details, SPC's capital investment in the Caveman Project is in the tens of millions of dollars, with many millions of dollars in investment in the Caveman Unit alone. *The project's relative importance to our company cannot be understated*. We have directed the vast majority of our company's capital and manpower to the Caveman Project for over four years. Without clarity and equity from the Division in how it decides this case, our company's well-being will literally be in jeopardy.

6. Since the Caveman Project inception, SPC has acquired over 4,600 primary term leases and 650 leases that are held by production from 20 producing vertical wells. The leases cover lands within the project area SPC has identified as prospective for horizontal development in the Bone Spring and Wolfcamp formations.

7. A critical portion of the Caveman Project is a standard 1,267.1-acre horizontal well spacing unit that covers the Wolfcamp formation within the entirety of Section 7 of Township 22 South, Range 27 East, and Section 12 of Township 22 South, Range 26 East (the **"Caveman Unit"**). The Caveman Unit was approved by OCD in Order R-21096 (as amended) and is the

specific subject of OCD's Application for Order to Revoke and the reason for this case and hearing; however, the entirety of SPC's investment in the broader Caveman Project will also be directly affected. Both the outline of the Caveman Project and the Caveman Unit within it are set forth on the *Brine Well Facility Area Activity Map*, attached as **Exhibit A-1**.

OBJECTIVES OF THE DIVISION AND SPC

8. I sincerely believe that the Division and SPC share a common overarching and primary goal of protecting the safety and health of the people, environment, and property in the area of SPC's planned operations.

9. It is my understanding that the OCD's specific objective with respect to this hearing is to temporarily delay SPC's drilling activity until the OCD has determined the Brine Well Facility (as defined in Paragraph 11 below) has been remediated and that the OCD will provide its technical justification for its sudden shift in policy in its testimony.

10. As for SPC, our near-term, post-hearing goal is to continue to collaborate with the OCD to find data-driven answers to the appropriate duration and radius of any suspension of drilling and completion activities around the Brine Well Facility, including the possibility of lifting the suspension and accelerating the timing conditions to allow such activities during or before completion of the remediation project. Yet, with respect to this hearing, SPC's more immediate objectives are to listen to the Division's technical justification for its application in this case and, more urgently, to obtain clear, actionable directives from the OCD that define what SPC can and cannot do with respect to its planned operations in the Caveman Unit and at any depth within the lands it covers. Ideally, such directives will minimize damages to SPC and promote clarity on its planned operations in its larger Caveman Project area.

THE DIVISION'S 2009 BRINE WELL AREA OF REVIEW AND ITS EFFECT ON SPC'S 2017-2021 PROJECT PLANNING AND EXECUTION

11. Establishing the history behind the subject matter of this case requires a review of OCD policy with respect to oil and gas activity in the vicinity of the former brine well facility located within the city of Carlsbad (**"Brine Well Facility"**). In 2009, before Santo or SPC were formed, the Division created an internal policy for reviewing Applications for Permit to Drill (**"APDs"**) for oil and gas wells that are proposed to be located within a half mile of the Brine Well Facility. The Brine Well Facility and area of underground partial salt removal as depicted on Exhibit A-1 was digitized from the City of Carlsbad Agenda Briefing Memorandum, dated April 11, 2019.

12. The Internal Policy established an area of review for all APDs filed that have a surface hole location within a half mile of the Brine Well Facility, which consists of two former brine wells, the Eugenie Well No. 1 and 2 that had been operated by I & W, Inc. (the **"Brine Well AOR"** depicted on Exhibit A-1). The Division explained that it established the Internal Policy and the Brine Well AOR to prevent drilling oil and gas wells that could be hydro-geologically connected to the Eugenie Wells and could cause dewatering, loss of pressure, or de-stabilization of the ground around the Eugenie Wells. *See* Internal APD Area-of-Review Staff Policy, attached as **Exhibit A-2** at 6. To our knowledge, the Internal Policy is the *only policy the Division has ever issued* with respect to oil and gas operations in the vicinity of the Brine Well Facility.

13. Based on our understanding of the Internal Policy and the Division's basis for it, SPC made the conservative decision to purposely avoid acquisition and development of not only acreage within the Brine Well AOR but also all acreage within any of the four sections of land (four-square miles) touched by the Brine Well AOR. That area includes Sections 17, 18, 19, and 20 of Township 22 South, Range 27 East. SPC made that decision despite its positive assessment

of the geologic potential of the Bone Spring and Wolfcamp formations in those sections of land. As a result of this decision to distance the boundary of the Caveman Project from the Brine Well Facility, SPC's closest leases within its planned development cover lands located about 0.8 miles north of the Brine Well Facility, *well outside* the perimeter of Brine Well AOR.

SPC'S PLANNED DEVELOPMENT AND TIMELINE OF ITS REGULATORY EFFORTS FROM 2019-2021

14. SPC's first proposed development in its Caveman Project acreage is the Caveman Unit. Between September 19, 2019 and May 6, 2021, SPC presented its plans to drill two initial Caveman Unit wells to the Division *five different times*—and every time the Division approved our plans, most recently issuing an Amended Order on May 17, 2021. *See* Order No. R-21096-B; *see also* Brine Well Facility Timeline, attached as **Exhibit A-3**.

15. On September 19, 2019, SPC first appeared in a live hearing before OCD to pool its Caveman Unit, dedicated to two initial Caveman wells, the Caveman 7-12 WCXY #2H well and the Caveman 7-12 WCD #3H well. Santo later changed the name of the Caveman 7-12 WCXY #2H well to the Caveman 402H. Our initial planned well, the Caveman 402H, is about 1.4 miles laterally from the Brine Well Facility and about 0.9 miles outside the perimeter of the Brine Well AOR. Furthermore, in the subsurface, the horizontal portion of the wellbore would be at its closest about 2.2 miles from the base of the Brine Well Facility as depicted in the *3-D Rendering of Caveman 402H and Brine Well Facility*, attached as **Exhibit A-4**.

16. Before going to hearing, SPC first had to undertake significant cost and effort to identify and attempt to reach voluntary agreement with interest owners located within the Caveman Unit. Because the spacing unit is partially within city limits, the land ownership, including the mineral estate, has been subdivided into small tracts. As a result, there are more than 650 separately

owned tracts within the Caveman spacing unit. Many of the interest owners have been difficult to locate and identify.

17. SPC detailed its extensive work to identify, locate and lease any and all mineral interest owners within the Caveman Project area (and the Caveman Unit) at the September 19, 2019 hearing. *See* Case No. 20762, Sept. 19, 2019, Tr. 10-25, attached as **Exhibit A-5**. Attempting to reach voluntary agreement with the many separate mineral interest owners across the proposed development was a significant and costly undertaking. SPC has spent significant time and capital employing and managing contract landman/brokers, conducting extensive research to identify owners of every single lot within the city, seeking out each owner, obtaining a signed lease and remitting bonus payments for each lease, maintaining a database of ownership information for both leased and unleased/unlocatable interest owners, pooling over 650 individual tracts within the Caveman Unit (and additional tracts within additional units in the Caveman Project), sending continued certified USPS notice to more than 500 uncommitted interest owners (in the Caveman Unit alone), printing Notices by Publication as required by the OCD, obtaining extensive title work to form the unit (we have commissioned 28 pre-drill title opinions for the Caveman Unit from two different law firms and one pre-drill division order title opinion), purchasing surface tracts and surface access, purchasing midstream and gathering line easements, working with approximately thirty working interest owners to secure participation commitment and Joint Operating Agreements, filing a Declaration of Pooled Unit detailing the approximate 600 leases we have in the Unit, preparing to remit royalties to approximately 1,150 payees, obtaining amendments to pooling and spacing provisions of HBP leases, among other day-to-day preparatory work on the Caveman Project and to ready the Caveman Unit for drilling. All of these efforts to build a viable

Caveman Project and to prepare to drill the Caveman Unit during the *primary term* of the leases have cost SPC tens of millions of dollars of investment capital.

18. Santo staffed a temporary office in Carlsbad with contract landmen/brokers for more than two years to identify and lease individual mineral interest owners. At the peak of our lease acquisition efforts, we had over 40 oil and gas land contractors living and working in Carlsbad. At the same time, we began working directly with the City officials and the Carlsbad City Council to earn their support for the proposed development. The City Council ultimately unanimously passed an ordinance that gave SPC the right to offer leases to landowners door-to-door and granted City officials authority to negotiate and eventually enter an approximately 800-acre lease from the City, covering all unleased mineral rights owned by the City within the Caveman Project. In addition to a wide variety of other health and safety topics, SPC and the City also discussed the location of the Brine Well Facility relative to the Caveman Project. The City's technical advisors, including Dr. Ned Elkins, supported the City's decision to enter an oil and gas lease and SPC's planned development. *See* Carlsbad Current Argus, Mayor's August Progress Report, Aug. 27, 2017, attached as **Exhibit A-6**. SPC also worked closely with the Carlsbad Municipal School District Board of Education and Eddy County to earn their unanimous support and obtain leases covering their unleased interests in the project area.

19. At the September 19, 2019 hearing on the Caveman Unit, SPC raised the issue of the brine well at the hearing. *See* **Exhibit A-5**, Case No. 20762, Sept. 19, 2019 at Tr. 27:1-16. Yet during the hearing, the OCD made *no mention* of the Brine Well Facility nor any potential risk any wells drilled within the Caveman Unit might pose to it. The Caveman Unit was approved by the Division Director on February 12, 2020 in Order R-21096, which set a one-year drilling deadline. Furthermore, the OCD did not raise the topic of the Brine Well Facility in any of the *five different*

approvals it issued related to the pooling of the Caveman Unit and associated approved APDs between February 2020 and May 2021.

20. SPC received Order R-21096 approximately one month before the onset of the COVID-19 global pandemic. Because of the economic uncertainty created by the pandemic, SPC was unable to comply with the original drilling deadline of February 12, 2021. Consistent with prior practice of the OCD, SPC requested the Order extension via letter in November 2020. However, the OCD refused to extend the order without setting a hearing, requiring SPC to apply to amend Order R-21096 and notify by certified mail approximately 500 uncommitted interest owners in the Caveman Unit of the extension hearing. After providing timely certified notice, on December 8, 2020 SPC filed its second application for the Caveman Unit requesting a one-year extension of Order R-21096 to commence drilling until February 12, 2022. That application was heard by a Division Examiner on January 21, 2021 and approved by the Division Director on April 12, 2021 in Order R-21096-A.

21. SPC then filed a third application with the Division for the Caveman Unit to pool additional uncommitted interest owners on April 5, 2021. That application was presented at a hearing on May 6, 2021 before a Division Examiner. It was approved by the Division Director on May 17, 2021 in Order R-21096-B. The deadline to commence drilling under the (amended) orders did not change and remains February 12, 2022.

22. Through all these hearings and approvals, the Division *never raised a concern about the Brine Well Facility*, or any other issue related to SPC's planned drilling activity, and were, in fact, complimentary of the quality of SPC's efforts. *See* Exhibit A-5 at Tr. 23:18-21 (Legal Examiner David commenting that "I really applaud the effort that you guys made to try to find these, and I appreciate you...you kind of hit all the issues that I would ask questions about.").

OCD'S SUDDEN AND UNCLEAR 2021 SHIFT IN POLICY WAS A SURPRISE TO SPC

23. As SPC continued preparations to meet its lease obligations and drilling deadlines, the Division's policy position with respect to oil and gas activity in proximity to the Brine Well Facility suddenly and unexpectedly changed without notice to SPC until *hours (not even days) before* our contracted rig was set to mobilize to our location to drill the Caveman 402H well.

24. While SPC was preparing its drilling and completion operations for the Caveman Unit, Mewbourne Oil Company ("Mewbourne") drilled four horizontal wells in the vicinity of the Brine Well Facility but entirely outside the Brine Well AOR. Two of the wells are located about 0.95 miles laterally from the Brine Well Facility and 0.45 miles from the perimeter of the Brine Well AOR.[1] One of the wells is located about 1.25 miles laterally from the Brine Well Facility and 0.75 from the perimeter of the Brine Well AOR.[2] The fourth well is located about 2.3 miles laterally from the Brine Well Facility and 1.8 miles from the perimeter of the Brine Well AOR.[3] *See* Exhibit A-1, Wells 25, 26, 27 and 28. *See also* Brine Well Facility Area Activity Timeline, attached as Exhibit A-3.

25. On May 4, 2021, SPC was verbally informed by an oil field service provider that OCD asked Mewbourne to delay the completion of these four wells due to their proximity to the Brine Well Facility. On May 13, 2021, Mewbourne verbally confirmed to us that they agreed to temporarily delay their plans to complete the wells for a matter of weeks at the Division's request in response to the Division's concerns about potential impacts to the Brine Well Facility.

[1] Mighty Ducks 15 16 W0PM State Com 1H (API No. 30-015-46808) and Mighty Ducks 15 16 W0IL State Com 2H (API No. 30-015-46807).

[2] City Slickers 28 29 W0AD Fee 1H (API No. 30-015-48087).

[3] Waterboy 27 26 W0DA Fee 1H (API No. 30-015-47305).

Mewbourne anticipated they would receive more details from the OCD regarding the requested delay within that time period. To our knowledge, there was no follow up communication to Mewbourne within that timeframe from the OCD. Mewbourne also informed us at the time that they understood the Division would contact other affected operators in the area, presumptively including SPC.

26. News of a potential undisclosed change in OCD policy with respect to oil and gas operations in the vicinity of the Brine Well Facility (but outside the established Brine Well AOR) was extremely surprising to SPC because, as mentioned above, these concerns were *never* raised by the Division in its communications to SPC and approvals from 2019 to as recently as May 2021.

27. This sudden potential shift in policy was also particularly surprising to SPC since the Division consistently approved numerous horizontal wells in close proximity to *and even under* the area covered by the Brine Well AOR from December 2014 through June 2021. *See* below at ¶ 28. In fact, during that time-period, the OCD approved a total of 38 APDs for horizontal wells within a radius of about 3 miles laterally from the Brine Well Facility and 2.5 miles from the perimeter of the Brine Well AOR. These wells are all identified on the Brine Well Area Activity Map as currently falling into one of three categories: (1) Approved APDs, (2) wells drilled and waiting on completion (such as the four Mewbourne wells referenced above), and (3) active producing wells. *See* Exhibit A-1.

28. To SPC, the most relevant data point to glean from these facts is that proximal horizontal drilling and completion operations by other operators in the area of the Brine Well Facility have been recently approved and allowed to be carried out by OCD. To start, two active producing wells in close proximity to the Brine Well AOR were drilled and completed in 2015

and 2016, respectively: The Grandi 22 2H Well (API No. 30-015-42821)[4] and the CCAP State Com 6H Well (API No. 30-015-42880).[5] *See* Exhibit A-1, Wells 33 and 34, respectively. The Grandi 22 2H (Well 34 on Exhibit A-1) is about 2.0 miles laterally from the Brine Well Facility and about 1.5 miles from the perimeter of the Brine Well AOR. The CCAP State Com 6H (Well 33 on Exhibit A-1) is about 1.0 mile laterally from the Brine Well Facility and about 0.5 miles from the perimeter of the Brine Well AOR, which is a half mile closer to the Brine Well Facility than is the Caveman 402H. Meanwhile, the four aforementioned Mewbourne wells were drilled without impediment from the Division between the dates of September 19, 2019 and May 6, 2021. *See* Exhibit A-1, Wells 25, 26, 27, and 28. Additionally, we understand that Devon Energy has completed four wells within the vicinity of the Brine Well Facility (as close as about 3 miles laterally from the Brine Well Facility and about 2.5 miles from the perimeter of the Brine Well AOR) *as recently as August 2021*.[6] *See* Exhibit A-1, Wells 29, 30, 31, and 32. The OCD will have to independently verify Devon's operations because no public filings are available at this time. The fact that SPC's planned operations in the Caveman Unit and Caveman Project in general are analogous to these already-approved, drilled and, in some cases, completed wells reassured SPC that its operations would also be allowed to proceed as proposed—and as OCD had approved.

29. Furthermore, as recently as June 3, 2021, OCD approved APD extensions for three horizontal wells *situated directly under* the Brine Well Facility itself and obviously also under the area covered by the Brine Well AOR. These wells are the Heavyweights 17 18 WOPM Fee 1H

[4] The Division approved the APD on December 2, 2014.

[5] The Division approved the APD on December 23, 2014.

[6] Beagle 35 34 22 27 Fee 401H (API No. 30-015-45682); Beagle 35 34 22 27 Fee 402H (API No. 30-015-47278); Collie 35 34 22 27 Fee 401H (API No. 30-015-45643); and Collie 35 34 22 27 Fee 402H (API No. 30-015-47294).

(API: 30-015-45961), the Heavyweights 17 18 WOPM Fee 2H (API: 30-015-45962), and the Heavyweights 17 18 WOIL Fee 3H (API: 30-015-45963). Although these permits were eventually cancelled, that information was not posted publicly by the OCD until July 21, 2021. To SPC and any reasonable party following and interpreting the Division's public actions with respect to its approval of APDs as of July 2021, it appeared development of oil and gas wells around the Brine Well Facility was allowed, especially considering permits to drill wells directly under the Brine Well Facility were still shown as being approved.

SPC COMMUNICATIONS WITH THE DIVISION SINCE JUNE 17, 2021

30. As it approached the date of rig mobilization to drill the Caveman 402H well starting in late June/early July, I became increasingly concerned about a potential conflict between the Division's public actions and our understanding of its private communications with Mewbourne. I was also concerned that OCD *had not contacted SPC directly* when we understood from Mewbourne that it would. The Caveman 402H was to be the first well in our entire Caveman Project area. So, its importance to SPC and Santo is significant because its drilling and completion was going to be a seminal moment for a very complex project four years in the making.

31. This uncertainty left my management team and me to guess what OCD policy actually was. On one hand, we thought it was possible OCD had not contacted us directly because the Mewbourne wells were closer to the Brine Well Facility than the Caveman Unit wells. However, I remained concerned that, like Mewbourne, we might drill our well, investing approximately 40% of the many millions of dollars in total capital required to drill and complete a well, only to then receive notice from OCD that we would not be allowed to complete it without any consideration from the Division as to the damages such an action would cause us.

32. So, out of an abundance of caution, I reached out to the Division Director directly by letter on June 17, 2021 to notify the Division of SPC's plans to begin drilling its Caveman 402H well and to complete it in the September-October 2021 timeframe. *See* H. Yates Letter to A. Sandoval, dated June 17, 2021, attached as **Exhibit A-7**.[7]

33. SPC received its first response from Director Sandoval at 6:01 p.m. on June 24, 2021 via email. In the initial response, the Director said the members of her team were not available to meet to discuss the contents of my letter until June 30, July 1, or July 2. I responded to the initial email from Ms. Sandoval the next day, Friday, June 25, stating that we intended to spud the Caveman 402H well in short order, expected a rig to start moving on or before June 30 and, therefore, needed to set the meeting as soon as practicable. I selected the earliest proposed meeting date, June 30 at 11:30 a.m. (but requested an earlier meeting if possible). The Director was unable to accommodate an earlier meeting date, and so our initial discussions with ODC occurred on June 30.

34. In the June 30 meeting and during back-and-forth discussions on the following two days, we explained SPC could not voluntarily delay the drilling and completion of the Caveman 402H well because our current timing (and anticipated early July spud date) was necessary to meet our existing lease obligations and drilling deadlines and to avoid expiration of our leases during their primary terms. SPC has remained extremely cooperative throughout this unexpected intervention from the OCD, but due to the contractual commitments to our lessors, we cannot under any circumstance voluntarily delay our drilling plans.

[7] 29. My letter to the Director of the OCD was sent via email on June 17, 2021, and also via Certified Mail, which was delivered on June 22, 2021.

35. Our discussions with OCD resulted in the OCD issuing an Emergency Order to suspend its approval of the APD for the Caveman 402H well on July 2, 2021. *See* Emergency Order, attached as **Exhibit A-8**. The Order caused SPC to cancel its rig contract and to indefinitely suspend plans to spud the Caveman 402H well.

NUMEROUS CONTRACTUAL OBLIGATIONS MAKE OCD'S IMPOSED DELAY EXREMELY DAMAGING TO SPC

36. The majority of the leases SPC obtained in the Caveman Project area, approximately 4,600 different leases, cover fee minerals and have primary terms of three or five years. These leases will terminate unless, within the primary term, SPC drills and completes a well capable of producing in paying quantities. One of Santo's largest single leases in the Caveman Unit has a primary term that expires on November 1, 2021. Hundreds of other leases in the Caveman Unit have primary terms that begin expiring in Spring 2022, and unless SPC drills and completes a well capable of producing in paying quantities within the primary terms of all these leases, it stands to suffer severe monetary damages.

37. Furthermore, SPC entered a joint venture contract on May 1, 2021 with a third party non-operated working interest participant in the Caveman 402H well and the Caveman Unit. The contract is worth millions of dollars to SPC and, if SPC does not begin drilling the Caveman 402H prior to December 31, 2021, the contract is at the risk of termination. A second similar contract, also worth millions of dollars to SPC, was under negotiation at the time the OCD's Emergency Order was issued. When SPC notified the counterparty of the Emergency Order, the counterparty terminated the negotiations, resulting in significant financial harm to SPC.

38. Because of these obligations and other considerations, including market conditions, SPC must diligently pursue its plans to drill and complete its proposed wells in order to comply

with its lease terms and to protect and preserve its significant capital expenditures on the Caveman Unit, the greater Caveman Project, and all planned future development.

OCD OPTION TO ISSUE BLANKET MORATORIUM WITH DEFINED RADIUS

39. OCD's inconsistent regulatory approach has given rise to *severe uncertainty* for SPC's planned development of not only the Caveman Unit but also the entirety of the Caveman Project. Not to mention, multiple other oil and gas operators in the area have been, or will be, affected by OCD's Brine Well Facility policy. SPC hopes that OCD will provide clear guidance with respect to where it believes oil and gas activity can safely proceed in the area of the Brine Well Facility and over what timeframes. Given OCD's concerns raised in its Emergency Order and Application to Revoke, it seems that if the Division insists on curtailing oil and gas activity in the area, it could and perhaps should issue an industry-wide temporary moratorium on drilling within a defined radius from the Brine Well Facility. Such an approach would be the most efficient, clear, and equitable manner in which to delay drilling across all operators in the affected area.

40. To the extent the OCD is unwilling to declare a moratorium within a defined radius, we propose a solution that would provide OCD a framework to temporarily delay drilling while also preserving SPC's extensive regulatory work and leasing efforts that have already been completed and represent significant value to SPC.

REVOCATION WOULD BE UNWARRANTED, PREJUDCIAL, PUNITIVE, AND INEFFECTIVE

41. Prior to discussing the proposed alternative solution referenced in the preceding paragraph, I want to address the nature of the application in this case before the Division, which calls for full revocation of the pooled Caveman Unit approved under Order R-21096 (as amended) along with the two associated APDs. I firmly believe *revocation is entirely unwarranted and would*

be prejudicial and punitive to SPC and wholly ineffective in promoting the goals of either the OCD or SPC.

42. Most importantly, revocation would unjustly undo all of SPC's regulatory work to-date that was *very expensive* (hundreds of thousands of dollars) and *time-consuming* (many months and sometimes years from preparation to approval) and essentially require all of that work to be repeated at a future date once OCD is ready to end its temporary delay and allow SPC to resume operations. SPC would then have to start its pooling efforts from scratch, placing an unjust burden of both additional expenditures and time on SPC and, most importantly, would further place hundreds of its primary leases in jeopardy of termination if SPC is unable to obtain a new order and permits in time for SPC to drill a well (or wells) to perpetuate its expiring leases.

43. Additionally, from an administrative standpoint, revocation of the Order and associated approved APDs may take away SPC's current right to drill and complete wells within the Wolfcamp formation, but it still leaves uncertainty as to when SPC could reapply for such rights—in fact, revocation would arguably force SPC to immediately to file new APDs and pooling applications to meet its lease obligations. Further, such revocation would not expressly prohibit the drilling of a well within any other formation. Without an order clearly prohibiting the drilling of any well within the lands covered by the Caveman Unit, SPC would arguably have to apply for and be denied the rights to form spacing units and drill wells, including vertical wells, in every pool within the affected acreage. This effort would be beyond impractical and would unnecessarily burden both OCD and SPC.

44. Since the cause of the delay in SPC's activities is due to an unforeseeable, unexpected, and sudden change in OCD policy with respect to the Brine Well Facility and not due

to any action by SPC, revocation would be a wholly inequitable and punitive action against a wholly prudent operator. We trust and hope that is not the Division's intent.

APPLYING ADDITIONAL TIMING CONDITIONS TO EXISTING AND FUTURE APPROVALS IS MORE APPROPRIATE AND EFFECTIVE THAN REVOCATION

45. In light of the problems with revocation and in the event the Division is opposed to issuing a blanket moratorium as discussed above, I believe OCD's placement of additional timing conditions on the existing Order and associated APDs would more effectively accomplish the OCD's goal of preventing SPC's operations during the Brine Well Facility remediation, and would preserve SPC's costly and time-consuming regulatory work. The practice of placing conditions on an order or an approved APD is also within the OCD's powers. *See, e.g.*, NMSA 1978, § 70-2-12(B) (The oil conservation division may make rules and orders "to require wells to be drilled, operated and produced in such manner as to prevent injury to neighboring leases or properties;"); § 70-2-11 ("[T]he division is empowered to make and enforce rules, regulations and orders, and to do whatever may be reasonably necessary to carry out the purpose of this act, whether or not indicated or specified in any section hereof."); 19.15.14.10.B NMAC ("The division may impose conditions on an approved permit to drill, deepen or plug back.").

46. We believe OCD could place an additional and enforceable timing condition on the Order and APDs that will effectively suspend SPC's operations until the OCD notifies SPC that the Brine Well Facility has been remediated or the condition is no longer necessary. The determination as to whether that condition has been met would be subject to the discretion and control of the Division. SPC would be treated fairly by temporarily suspending (as opposed to canceling) the Order and APDs. Such temporary suspension should be designed to allow the remaining time (from the effective date of the Emergency Order, being July 2, 2021) on the Order and approved APDs to be tolled until OCD determines the condition has been met or lifted.

47. Including language that OCD prohibits the drilling of any well, vertical or horizontal, in any formation on lands covered by the Order, would clarify OCD's intent to prevent any and all oil and gas activities in the area covered by the Order until OCD determines the condition is met or lifted. That clarification would eliminate the potential need for SPC to repeatedly apply for spacing units, pooling orders, and APDs targeting other horizons and formations to meet its obligations and commitments arising from its leases and other contracts in the Caveman Unit and larger Caveman Project area.

48. Another benefit of placing additional timing conditions on existing approvals is that the conditions applied pursuant to this case could be expressly incorporated by reference to SPC's other existing orders or permits in the Caveman Project area that are already approved and/or have yet to be filed and that the OCD intends to be subject to the same timing conditions. SPC has also obtained Division approval for three other spacing units within the Caveman Project that cover lands north of the Caveman Unit. These include the (1) Barney 5-6 (SW/S2) Bone Spring Unit, Order(s) No. R-21004, R-21004-A & R-21004-B; (2) Barney 5-6 (SW/S2) Wolfcamp Unit, Order(s) No. R-21123, R21123-A-, R-21123-B; and (3) Betty 5-6 N2 Wolfcamp Unit, Order(s) No. R-21100, R-21100-A. These additional units have also required extensive work and expenditures related to securing the initial pooling orders and extending these orders (requiring Certified Notice and Notice by Publication to hundreds of uncommitted interest owners in each unit). In the event the Division intends to also temporarily delay SPC's planned operations in these additional units, it can efficiently do so administratively by placing the same conditions discussed above on the existing orders under existing Division authority, as stated in Paragraph 45 above.

49. SPC also has additional lands in the Caveman Project that it has long planned to develop and pool within the timeframe the Division will be remediating the Brine Well Facility. I

believe if the Division were to now simply refuse to review or outright deny such future applications, it would be unreasonably punitive to SPC in the same manner revocation of existing orders and approved APDs would be and could potentially result in the loss of SPC's valuable property interests in those lands. Instead, the Division should allow SPC to submit APDs and, if they meet all other conditions for approval, approve such applications subject to the additional timing condition. Doing so would place all affected lands under a clear, uniform conditional suspension.

THE DIVISION SHOULD CLARIFY AND JUSTIFY ITS POSITION ON SUSPENDING DEVELOPMENT IN THE AREA AND WORK WITH SPC AND INDUSTRY TO FIND APPROPRIATE DATA-DRIVEN SOLUTIONS GOING FORWARD

50. Beyond the Division's stance on the Caveman Unit, its policy position with respect to the distance from the Brine Well Facility at which any oil and gas activity may be carried out in the area remains wholly unclear and appears to be unevenly applied, as demonstrated by the differing levels of activity allowed over time. *See* Exhibit A-1, Brine Well Area Activity Map.

51. *SPC's investment in the Caveman Project, a substantial investment by any company's definition but one that is essentially synonymous with the entirety of SPC and Santo, now hangs in the balance and hinges on the Division's decision in this case*. SPC requests the Division provide clarity in an order with respect to its policies and, in recognizing how such policies have suddenly changed through no fault of SPC's, do so in a way that is equitable, fair, and not punitive to SPC. Without such clarity, SPC will be forced to pursue all options to maintain its leases and protect its investments, a process that would result in unnecessary potential litigation, administrative burden, and cost to both the Division and SPC.

52. In addition to establishing a clear policy, sharing information that is available to the Division related to the Brine Well Facility and the remediation project with SPC and other operators will be critical for achieving clarity and understanding. In an email on June 30, 2021,

Director Sandoval committed to working collaboratively with SPC to share technical data on the Brine Well Facility and the remediation project. Through counsel, SPC submitted an Inspection of Public Records Act request to the Division on July 8, 2021, for documents and information pertaining to the Division's monitoring, investigation, and remediation of the Brine Well Facility. Given the scope of the public records request, the Division has been providing the requested information over a period of time and in a series of productions. The most recent production was on August 20, 2021; however, the OCD has not yet provided SPC all of the requested data. *SPC expects the Division will continue to work collaboratively to identify and provide all of the records, information and data SPC has asked for in its public records request*.

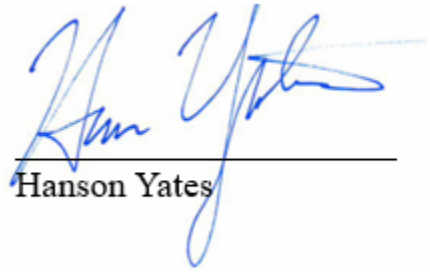
53. As stated in the section pertaining to objectives further above, we expect the Division to engage in a transparent and honest merits-based dialogue with SPC and other affected oil and gas operators on the appropriate duration (and moratorium radius, if imposed) of any suspension of drilling and completion activities around the Brine Well Facility, including the possibility of lifting the suspension and accelerating the timing conditions to allow drilling and completion activities during or before completion of the remediation project.

54. The oil and gas sector is still the primary economic engine and source of tax revenue in the State of New Mexico and will be for years to come. Execution of oil and gas projects as complex as the Caveman Project require years of planning and significant capital and human resources. While changes in governmental policy with respect to oil and gas operations are to be expected, Division policy changes should be applied as publicly, proactively, evenly, and clearly as possible and in a manner that allows operators (of every size and type, whether big, small, public or private) to plan for successful and safe execution of projects that contribute to the State's coffers and the security of its people.

55. I am therefore humbly requesting the Division fairly and clearly apply its authority in a manner that minimizes the potential damage this sudden change in policy will cause our company and its employees. Thank you.

56. **SPC Exhibits A-1 through A-8** were either prepared by me or compiled under my direction and supervision.

57. I affirm under penalty of perjury under the laws of the State of New Mexico that the foregoing statement in Paragraphs 1-56 is true and correct. I understand that this self-affirmed statement will be used as written testimony in this case. This statement is made on the date next to my signature below.



Hanson Yates

September 2, 2021
Date

17331452_v1

Exhibit A-1, SPC Resources Case 22102

Brine Well Facility Area Activity Map

Eddy County

T21S-R26E

T22S-R26E

T22S-R27E

T23S-R26E

T23S-R27E

EUGENIE WS-2

EUGENIE WS-1

Brine Well Facility
- Brine Well Facility
- Brine Well Partial Salt Removal
- Brine Well AOR (1/2 Mile)

SPC Caveman Project and Approved Units
- SPC Project Boundary
- SPC Caveman Unit
- SPC Other Approved Units

Wells
- SPC Approved APD
- Approved APD
- Cancelled APD
- Drilled and Waiting on Completion
- Producing Horizontal Gas Well
- Producing Horizontal Oil Well

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-1
Submitted by: SPC Resources, LLC
Hearing Date: September 9, 2021
Case No. 22102

SPC Unit Orders

MAP	SPC Pooled Units	Formation	Order No(s)
A	Caveman 7-12	Wolfcamp	R-21096, A&B
B	Barney 5-6 (SW/S2)	Wolfcamp	R-21123, A&B
C	Barney 5-6 (SW/S2)	Bone Spring	R-21104, A&B
D	Betty 5-6 (N2)	Wolfcamp	R-21100, A

NOTE: See Next Page for Numbered Well Reference Table

Exhibit A-1, SPC Resources Case 22102 (continued)

MAP	STATUS	OPERATOR	WELL NAME	WELL #	MOST RECENT OCD APPROVAL	DATE PROD. CSG SET	DATE OF FIRST PROD.
1	APPROVED APD	SPC RESOURCES, LLC	CAVEMAN	402H	3/12/2021		
2	APPROVED APD	SPC RESOURCES, LLC	CAVEMAN 7 12 WCD	003H	11/17/2020		
3	APPROVED APD	MEWBOURNE OIL COMPANY	SANDLOT 9 8 W0PM FEE	001H	3/2/2021		
4	APPROVED APD	MEWBOURNE OIL COMPANY	SANDLOT 9 8 W0IL FEE	001H	3/2/2021		
5	APPROVED APD	MEWBOURNE OIL COMPANY	SANDLOT 9 8 W0AD FEE	001H	3/2/2021		
6	APPROVED APD	MEWBOURNE OIL COMPANY	SANDLOT 9 8 W0HE FEE	001H	3/2/2021		
7	APPROVED APD	MEWBOURNE OIL COMPANY	MIGHTY DUCKS 15 16 W0AD STATE COM	001H	2/12/2021		
8	APPROVED APD	MEWBOURNE OIL COMPANY	MIGHTY DUCKS 15 16 W0HE STATE COM	001H	2/12/2021		
9	APPROVED APD	MEWBOURNE OIL COMPANY	SQUINTS 4 5 W0PO FEE	001H	5/15/2020		
10	APPROVED APD	MEWBOURNE OIL COMPANY	SQUINTS 4 5 W0IJ FEE	001H	5/15/2020		
11	APPROVED APD	MATADOR RESOURCES	HAZEL INEZ	203H	1/9/2020		
12	APPROVED APD	MATADOR RESOURCES	HAZEL INEZ	204H	1/9/2020		
13	APPROVED APD	DEVON ENERGY	ZUNI 26 27	622H	9/20/2019		
14	APPROVED APD	DEVON ENERGY	ZUNI 26 27	623H	9/20/2019		
15	APPROVED APD	DEVON ENERGY	ZUNI 26 27	333H	9/20/2019		
16	EXPIRED APD	ASCENT ENERGY INC	HOKIE FEE	602H	6/10/2020		
17	EXPIRED APD	ASCENT ENERGY INC	HOKIE FEE	601H	6/10/2020		
18	EXPIRED APD	ASCENT ENERGY INC	HOKIE FEE	702H	6/10/2020		
19	EXPIRED APD	ASCENT ENERGY INC	HOKIE FEE	502H	6/10/2020		
20	EXPIRED APD	ASCENT ENERGY INC	HOKIE FEE	501H	6/10/2020		
21	CANCELLED APD	ASCENT ENERGY INC	HOKIE FEE	701H	6/10/2020		
22	CANCELLED APD	MEWBOURNE OIL COMPANY	HEAVYWEIGHTS 17 18 W0PM FEE	001H	6/3/2021		
23	CANCELLED APD	MEWBOURNE OIL COMPANY	HEAVYWEIGHTS 17 18 W0PM FEE	002H	6/3/2021		
24	CANCELLED APD	MEWBOURNE OIL COMPANY	HEAVYWEIGHTS 17 18 W0IL FEE	003H	6/3/2021		
25	WAITING ON COMPLETION	MEWBOURNE OIL COMPANY	CITY SLICKERS 28 29 W0AD FEE	001H		4/27/2021	
26	WAITING ON COMPLETION	MEWBOURNE OIL COMPANY	WATERBOY 27 26 W0DA FEE	001H		4/8/2021	
27	WAITING ON COMPLETION	MEWBOURNE OIL COMPANY	MIGHTY DUCKS 15 16 W0IL STATE COM	002H		3/18/2021	
28	WAITING ON COMPLETION	MEWBOURNE OIL COMPANY	MIGHTY DUCKS 15 16 W0PM STATE COM	001H		2/25/2021	
29	WAITING ON COMPLETION	DEVON ENERGY	COLLIE 35 34 22 27 FEE	401H		11/16/2020	
30	WAITING ON COMPLETION	DEVON ENERGY	BEAGLE 35 34 22 27 FEE	401H		10/18/2020	
31	WAITING ON COMPLETION	DEVON ENERGY	COLLIE 35 34 22 27 FEE	402H		10/10/2020	
32	WAITING ON COMPLETION	DEVON ENERGY	BEAGLE 35 34 22 27 FEE	402H			
33	ACTIVE - OIL	CONOCOPHILLIPS	CCAP STATE COM	006H			2/1/2016
34	ACTIVE - OIL	DEVON ENERGY	GRANDI 22	002H			4/1/2015
35	ACTIVE - GAS	MARATHON OIL	AIRPORT 36 WXY STATE	010H			1/1/2020
36	ACTIVE - GAS	MEWBOURNE OIL COMPANY	SUNDOWN 31 32 W0DA FEE	001H			10/1/2019
37	ACTIVE - GAS	MEWBOURNE OIL COMPANY	SUNDOWN 31 32 W0EH FEE	002H			10/1/2019
38	ACTIVE - GAS	DEVON ENERGY	BOXER 32 22 27 FEE	401H			4/1/2019
39	NEW - SWD	SOLARIS WATER MIDSTREAM	PECOS RIVER 11 SWD	1		2/5/2021	

New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division

Internal Application Permit to Drill (APD) Area-of-Review (1/2 Mile) Staff Policy for:

I & W Inc. Eugenie Brine Extraction Facility (BW-006)
SW/4 SW/4 Sec. 17, T 22 S, R 27 E
Eddy County

January 30, 2009

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-2
Submitted by: SPC Resources, LLC
Hearing Date: September 9, 2021
Case No. 22102

OCD District 2 (Artesia)
OCD Environmental Bureau (Santa Fe)

Introduction:

The Oil Conservation Division hereby establishes a ½ mile Area of Review (AOR) for all APDs surrounding the existing brine wells at the I & W, Inc. facility (BW-006). The facility consists of two brine wells, the Eugenie Well No. 1 & 2. The brine wells are located on I & W Inc. property in Carlsbad just south of the intersection of U.S. Hwy. 285 and the Pecos Highway south (see Figure 1).

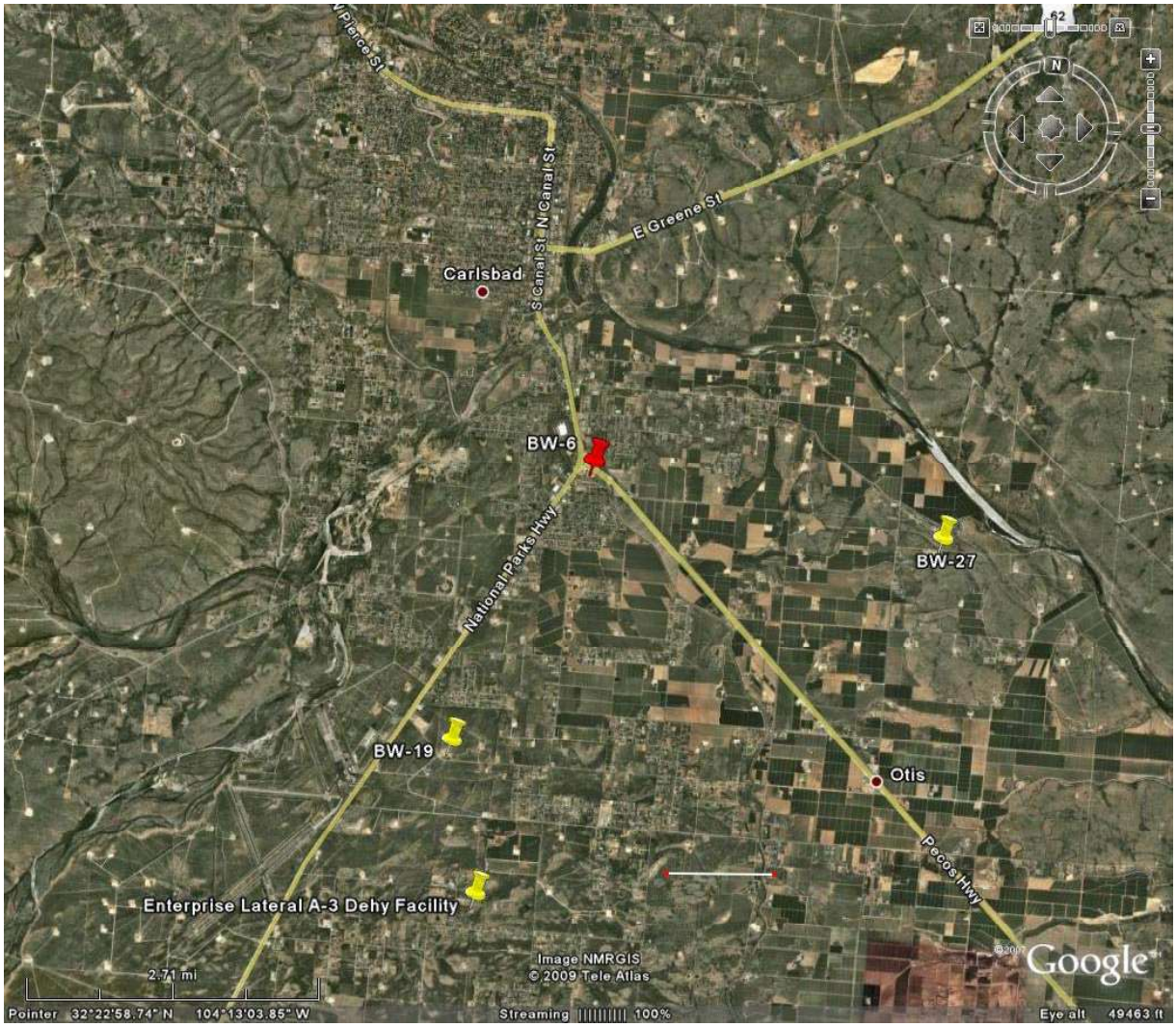


Figure 1

Brine Operation:
There was a two-brine well extraction system in operation, until Well No. 2 was plugged and abandoned in 1999. Well No. 1 was plugged and abandoned on 10/31/2008 (see Table 1 below).

API WellNo	Comments	Well Name (Ongard)	Well#	Legal (Ongard)	N/S	E/W	Well Name (Non Ongard)	WellNo	S-T-R	County	Well Status
30-015-22574	[N 32.38813 W 104.21817]	EUGENIE	001	M 17 22S 27E	995 S	641 W	Eugenie	001	17-22S-27E	Eddy	10/31/2008
30-015-23031		EUGENIE	002	M 17 22S 27E	1288 S	497 W	Eugenie	002	17-22S-27E	Eddy	1999

Table 1

Well Construction:
Well No. 1 was constructed with 9 5/8” casing set to 350 ft. bgl. The well was drilled to 663 ft. (see Table 2) and 7” casing was set at 456 ft. bgl. Tubing was set at a depth of about 601 ft. bgl before plug and abandonment.

Well No. 2 was constructed with 5 ½“ casing set at 285 ft. bgl. Tubing consisted of 2 7/8” tubing, which was perfed at 335 ft. bgl.

P.B.J.& S.
BOX 1591
ODESSA,TEXAS 79760

JUNE 30, 1975

SALT # 1

0 to 46	TOP SOIL WITH GRAVEL
46 to 58	SAND & GRAVEL
58 to 62	LIME
62 to 65	RED BED
65 to 76	RED SAND
76 to 107	GRAVEL
107 to 163	BROWN CLAY W/GRAVEL & SAND
163 to 170	RED BED
170 to 178	LIME VERY HARD
178 to 225	RED BED
225 to 237	ANHYDRITE & RED BED
237 to 252	LIME & ANHYDRITE W/SOME GYP.
252 to 268	RED BED
268 to 285	LIME W/GYP. STRINGERS
285 to 305	GYP. W/LIGHT RED BED
305 to 320	GYP. & ANHYDRITE
320 to 328	RED BED
328 to 360	ANHYDRITE W/LIME & SAND
360 to 410	RED TOP & ANHYDRITE
410 to 430	ANHYDRITE W/SOME LIME
430 to 437	GRAY LIME (HARD) & ANHYDRITE
437 to 445	ANHYDRITE
445 to 456	ANHYDRITE & GRAY LIME
456 to 555	SALT
555 to 567	SALT & [illegible] LIME
567 to 576	SALT & BLUE SHALE VERY LITTLE
576 to 592	SALT
592 to 663	ANHYDRITE

Table 2

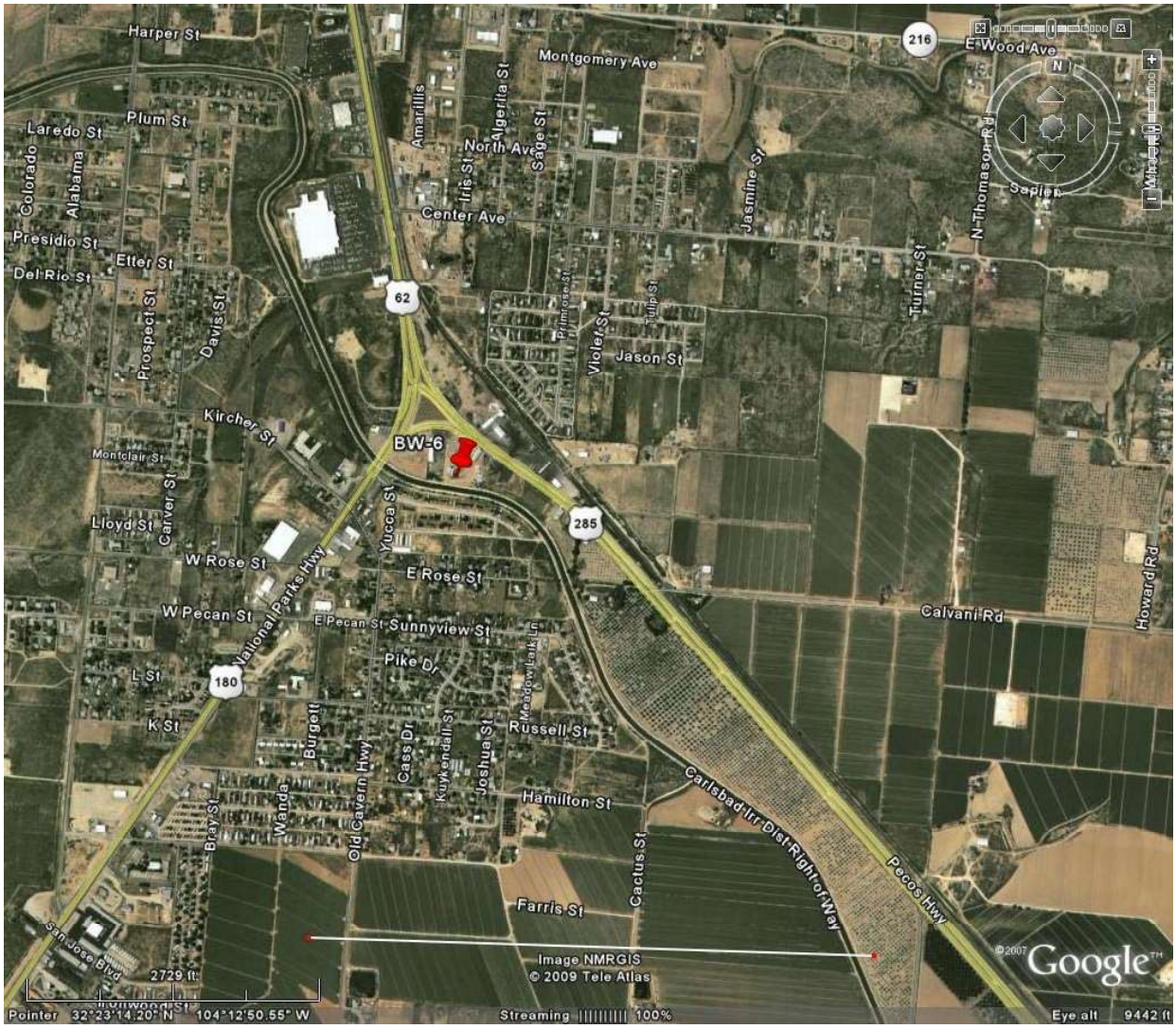


Figure 2

Owner/Operator Actions:

I & W Inc. voluntarily and permanently shut-in the brine well on July 22, 2008. The well was later plugged and abandoned on October 31, 2008. These actions were undertaken after the Jims Water Service (BW-005) brine well collapse on July 16, 2008 as a precautionary measure by the owner/operator. Due to its shallow depth and location in the City of Carlsbad, the brine well cavern is in close proximity to many infrastructure features, e.g., roads, railroads; irrigation canal, etc. (see Figures 2 & 3).

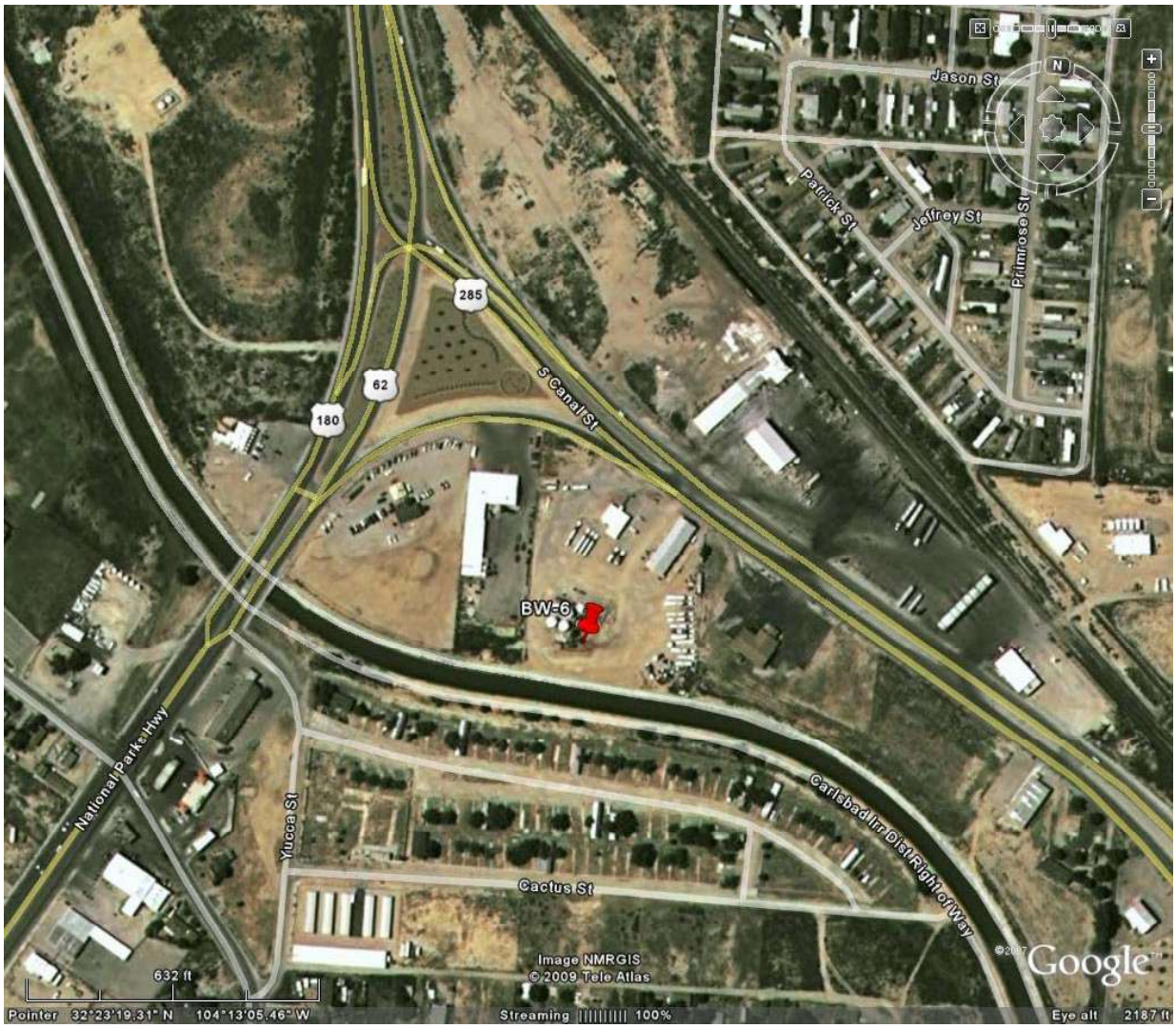


Figure 3

Internal APD AOR (1/2 mile) Policy:

More recently, the Loco Hills Brine Well No. 1 (BW-21) just north of Loco Hills, New Mexico collapsed in November of 2008. Brine Well No. 1 was plugged and abandoned on 7/7/2008. The collapse may have been caused by the drilling of a well that took on water at a similar depth interval and suspected by the OCD of being hydrogeologically connected with the salt cavern at Brine Well No. 1. Consequently, the collapse at Brine Well No. 1 may have been caused by the dewatering and/or loss of pressure in the cavern, which resulted in the destabilization of the ground around Brine Well No. 1. To avoid this in the future from occurring at this facility (BW-6), the OCD has developed an Internal Application Permit to Drill (APD) Area-of-Review (1/2 Mile) Staff Policy (see Figure 4).

Map by: Jim Griswold, NMOCD

Figure 4

Eddy County Emergency Response Plan:

Ground water most likely to be affected by a spill, leak, or accidental discharge to the surface is at a depth of approximately 45 feet with a TDS of approximately 200 mg/L. The brine well discharge permit addresses well construction, operation, monitoring of the well, associated surface facilities, and provides a contingency plan in the event of accidental spills, leaks and other accidental discharges in order to protect fresh water. However, the discharge permit does not address a catastrophic collapse scenario. The OCD is currently working with I & W Inc. to complete a Contingency Plan in addition to working with the Eddy County Hazmat, State Police and the Local Emergency Planning Committee (LEPC- Fire Marshal). OCD will require I & W, Inc. to submit a copy of its final Contingency Plan to the Eddy County Hazmat responders. In addition, the OCD will recommend to Eddy County that it's Emergency Plan include a scenario for a

potential brine well collapse scenario from this facility in the interest of public health and safety.

Map by: Jim Griswold, NMOCD

Figure 5

Internal Application Permit to Drill (APD) Area-of-Review (1/2 Mile) Staff Policy: OCD District 2 shall contact the Environmental Bureau whenever it receives any APDs located within a ½ mile Area-of-Review (AOR) from the brine wells at this facility (see Figures 4 - 6). District Office 2 staff and/or the District Supervisor shall make the preliminary determination and internally discuss the determination for approval and/or denial jointly with the Environmental Bureau Staff and/or Bureau Chief to reach consensus on a final determination.

Map by: Jim Griswold, NMOCD

Figure 6

Brine Well Facility Area Timeline

Since 2009, Official OCD Policy = ½ Mile Brine Well AOR → **Official OCD Policy = TBD**

Events in bold boxes indicate first direct evidence to SPC of OCD shifts in long-standing policy

OCD Actions

Jul 22, 2008	Terminates operations of Brine Well Facility
Jan 30, 2009	Establishes 0.5 mile Brine Well AOR
Dec 2, 2014	Approves APD for Grandi 22 002H
Dec 23, 2014	Approves APD for CCAP State Com 006H
May 2, 2019	Approves APD for Heavyweights 17 18 W0PM Fee 1H, 2H, W0IL 3H directly under Brine Well Facility
Sep 30, 2019	Begins remediation of Brine Well Facility

Feb 12-17, 2020
Issues the following SPC pooling orders:
R-21096 Caveman Unit (WC)
R-21100 Betty Unit (BS)
R-21104 Barney Unit (BS)
R-21123 Barney Unit (WC)

Jul 24, 2020
Suspends remediation of Brine Well Facility

Nov 4, 2020
Approves APD for Caveman 7 12 WCXY 2H

Mar 12, 2021
Approves APD name change for Caveman 402H

Apr 12, 2021
Issues R-21096-A for Caveman Unit, extending order to Feb 12, 2022

May 17, 2021
Issues R-21096-B for Caveman Unit, adding parties

Jun 3, 2021
Approves extension of Heavyweights APDs

Jun 24, 2021
Requests meeting w/ SPC regarding Caveman 402H

Jun 30, 2021
Requests SPC voluntarily delay drilling Caveman 402H

Jul 2, 2021
Issues Emergency Order to stop SPC's drilling of Caveman 402H

Jul 23, 2021
Files Case 22102 with Application to Revoke APD for Caveman 402H

Aug 9, 2021
Amends Case 22102 to also include revocation of Pooling Order R-21096 and APD for Caveman 7 12 WCD 003H

Area O&G Activity

Jan 20,2015	Grandi 22 002H spud
Apr 1, 2015	Grandi 22 002H ends frac
Apr 13, 2015	CCAP State Com 006H spud
Feb 15,2016	CCAP State Com 006H ends frac
Dec 15, 2018	Boxer 32 27 27 Fee 401H spud
Mar 29, 2019	Boxer 32 27 27 Fee 401H ends frac
Jul 8, 2019	Sundown 31 32 W0DA Fee 1H spud
Aug 9, 2019	Sundown 31 32 W0EH Fee 2H spud
Oct 2, 2019	Sundown 31 32 W0DA Fee 1H ends frac
Oct 3, 2019	Sundown 31 32 W0EH Fee 2H ends frac

Sep 5, 2020
Spud of Beagle 35 34 22 27 Fee 401H / 402H

Oct 21, 2020
Spud of Collie 35 34 22 27 Fee 401H / 402H

Feb 1, 2021
Spud of Mighty Ducks 15 16 W0PM State Com 001H

Feb 26, 2021
Spud of Mighty Ducks 15 16 W0IL State Com 002H

Mar 25, 2021
Spud of Waterboy 27 26 W0DA Fee 001H spud

Apr 11, 2021
City Slickers 28 29 W0AD Fee 001H spud

Jul 2021
Completion of Beagle 35 34 22 27 Fee 401H / 402H and Collie 35 34 22 27 Fee 401H / 402H

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 **2020** **2021** **2022**

Sep 9, 2021
Hearing for Case 22102

SPC Actions

2010	Santo founded
2017	SPC founded and Carlsbad office staffed
Aug 6, 2019	Files application to pool Caveman Unit
Sep 9, 2019	Presents Case 20762 to pool Caveman Unit
Nov 14, 2019	Presents Case 20860 to pool Barney Unit (BS), Case 20858 to pool Barney Unit (WC), and Case 20859 to pool Betty Unit (WC)

May 14, 2020
Presents Case 21257 to extend Order R-21104 for Barney Unit (BS) and in Case 21258 to extend Order R-21123 for Barney Unit (WC)

Dec 8, 2020
Files application to extend Order R-21096 for Caveman Unit

Jan 21, 2021
Presents Case 21577 to extend Order R-21096 for Caveman Unit, Case 21576 to extend order for Betty Unit, 21574 to extend Order R-21104 for Barney Unit (BS) , and 21575 to extend order for Barney WC Unit

Apr 5, 2021
Files application to amend Order R-21096-A for Caveman Unit

May 1, 2021
Enters Caveman 402H Joint Venture contract

May 4, 2021
Learns from oil field service provider OCD asked Mewbourne to delay nearby completions

May 6, 2021
Presents Case 21855 to add interest owners to R-21096-A for Caveman Unit

May 13, 2021
Mewbourne verbally confirms to SPC that OCD asked them to delay nearby completions

Jun 17, 2021
Sends H. Yates letter to A. Sandoval, notifying OCD of plan to drill Caveman 402H

Jun 25, 2021
Requests earliest possible meeting with OCD regarding drilling Caveman 402H

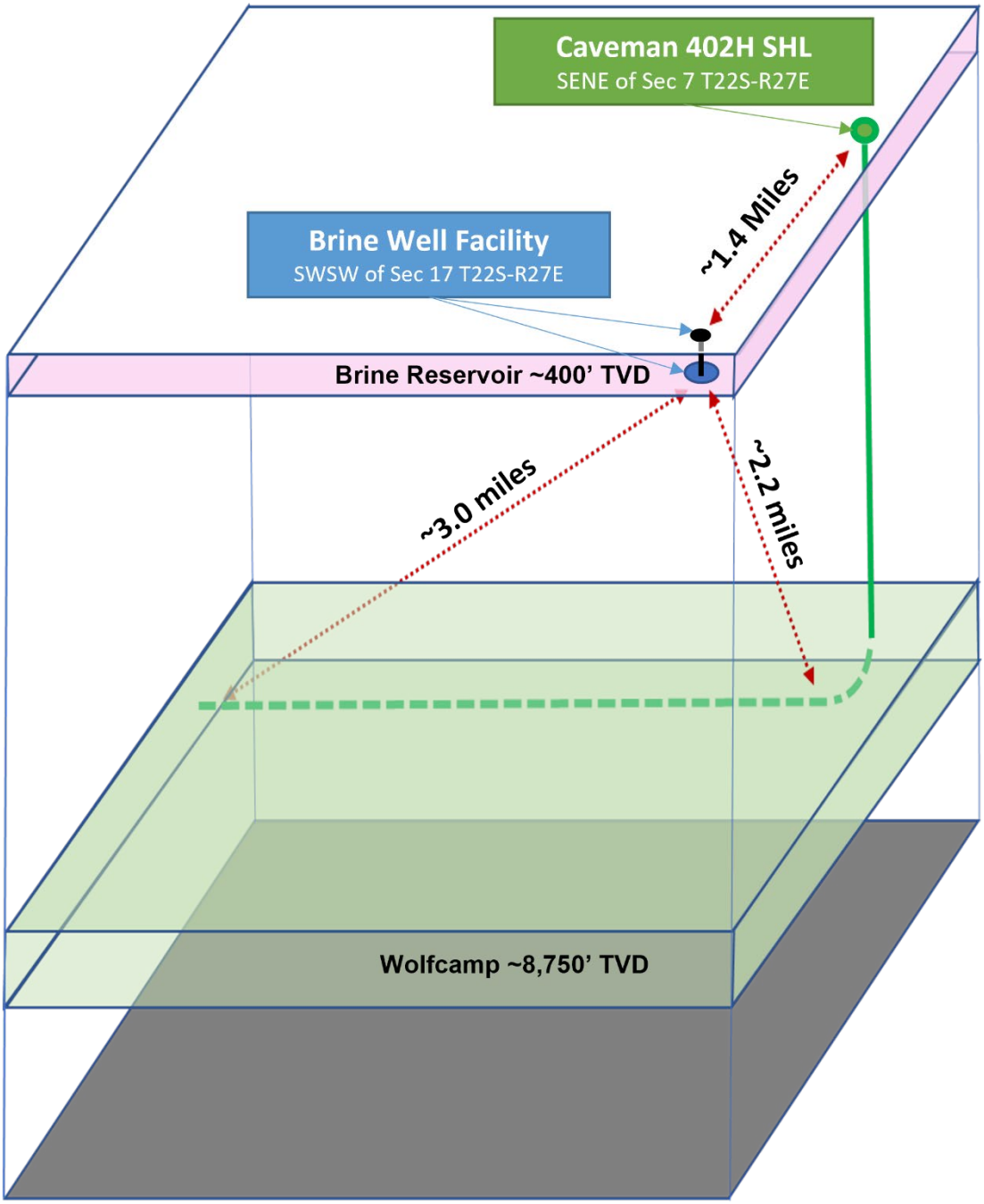
Nov 1, 2021
First Caveman Unit lease expiration

Dec 31, 2021
Caveman 402H Joint Venture contract expires if well has not been spud

Feb 12, 2022
Expiration date of Order R-21096-A/B for Caveman Unit

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-3
Submitted by: SPC Resources, LLC
Hearing Date: September 21, 2021
Case No. 22102

3-D Rendering of Caveman 402H and Brine Well Facility
(not to scale)



BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-4
Submitted by: SPC Resources, LLC
Hearing Date: September 9, 2021
Case No. 22102

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED
BY THE OIL CONSERVATION DIVISION FOR
THE PURPOSE OF CONSIDERING:

APPLICATION OF SPC RESOURCES, LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO. CASE NO. 20762

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 19, 2019

Santa Fe, New Mexico

BEFORE: KATHLEEN MURPHY, CHIEF EXAMINER
PHILLIP GOETZE, TECHNICAL EXAMINER
DANA Z. DAVID, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Kathleen Murphy, Chief Examiner; Phillip Goetze, Technical Examiner; and Dana Z. David, Legal Examiner, on Thursday, September 19, 2019, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: Mary C. Hankins, CCR, RPR
New Mexico CCR #20
Paul Baca Professional Court Reporters
500 4th Street, Northwest, Suite 105
Albuquerque, New Mexico 87102
(505) 843-9241

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EXHIBITS OFFERED AND ADMITTED

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A. Yes.

Q. And what is the nature of the lands in this spacing unit?

A. They are all fee.

Q. And are there any depth severances in this pool?

A. No.

Q. In this case SPC seeks to pool unleased mineral interest owners, working interest owners and overriding royalty interest owners?

A. Yes.

Q. And has locating all the mineral interest owners been a challenge for this area?

A. It has due to the volume of the tracts and the small size of the tracts, which go down to the individual lot level in some areas.

Q. And so expand upon that a little bit more, about how the tracts are owned down to the lot-size level?

A. So in a general sense, minerals were conveyed at the dedication or point of subdivision, so they were conveyed to the individual owners of the first house that was built on each lot. And then when that house was sold at some point in time after, those minerals were either reserved, which is what happened in most

cases inside the city limits of Carlsbad, but in some cases, they've been conveyed out since.

Q. And how long has SPC been working on the ownership issues here?

A. So we identified this area, which is approximately -- the project area is eight sections in and around and on top of Carlsbad. We identified that as a potentially prospective area for leasing around the end of 2016 and early '17.

So in the middle of 2017 is when we partnered with a terrific brokerage firm out of Lafayette, Louisiana called the Schoeffler Energy Group, and they've really worked with us to begin looking at the ownership. So early on we were hopeful that maybe developers had reserved the minerals and then determined rather quickly that all the minerals had been conveyed down to the lot level.

So in the middle of 2017, we actually set up an office inside of Carlsbad to start working on the project, working on the research to identify mineral owners. And then we approached the city council sort of in the middle of '17 and towards the end of '17 and attended many of the city council meetings to just talk about the project and work with the City to get their support, which we did. And so we attended, like I said,

multiple meetings where we ultimately got support to go door to door to identify and locate mineral owners.

And then the City ultimately passed an ordinance granting us the right to take a lease from them, so we have an 800-acre lease from the City of Carlsbad covering streets, alleys -- alleyways, streets and then like public -- public spaces that are owned by the City. That's an 800-acre lease. There's only about 80 acres in this unit out of that lease. And then the school board followed suit, and we also have a lease that we secured from the school board at that time. We have also secured a lease from the County.

So any publicly owned fee minerals are secured and are under lease by SPC.

Q. What process was unitized to identify all mineral owners?

A. So a very typical mineral ownership research process. It just had to happen at every single lot level. So we used the records of Guaranty Title Company Title Plan in Carlsbad, New Mexico. We also used the records of Currier Abstract Company Title Plan in Artesia, New Mexico. We also used the records of Eddy County Clerk to identify the owner from inception and then find all of the conveyances out of each lot to occurrence, which oftentimes that just goes into heirs,

to pinpoint the current owners of every single tract.

Q. And then from there, what did you do with each conveyance?

A. You bring it forward, and you also cross-check it against the county clerk of Eddy, which I mentioned, but also the probate clerk court records in Eddy County and the district court clerk in Eddy County. And then if you find any names in that, you go back and double-check that there are no conveyances due rulings out of those publicly available records.

Q. So did SPC prepare mineral ownership reports or limited certificates of title for each interest?

A. We did. So for each tract, based on that research, we have a limited certificate of title or a mineral ownership report, and copies of every single one of those, we have in a per-lease file. And then we also have copies for every tract that we were unable to locate a lessor in. So those are filed. And each file details our attempts taken to reach or identify each owner that we weren't able to secure a lease from.

Q. And so did SPC also obtain title opinions to ensure accurate ownership information?

A. We did. So to backstop all of the lot-level research that I just described, we've commissioned title opinion from inception to current on any tracts that are

larger than three acres. For subdivisions, we commissioned title from inception to the point of subdivision so that we could make sure that there was no reservation by a developer, and then from that point on, it's overlaid by the process I just described where each lot is then brought forward under an LTC or an MOR.

Q. And what about any tract that was outside of the subdivision?

A. Any tract outside of the subdivision that was smaller than three acres, we also have relied on an MOR or LTC to identify ownership and take a lease.

Q. So now I'd ask you to turn to SPC Exhibit 3A, which is the ownership breakdown. And on this exhibit, I see -- it appears about 61.8 percent is leased to SPC and 31.7 percent is leased to other parties. And then how many remain unleased?

A. Approximately 6.3 percent of the unit remains unleased.

Q. And that represents about how many individuals?

A. So there is still approximately 400 individual owners who we've attempted to contact and have notes about contacting who remain unleased.

Q. But how many unleased mineral owners did SPC initially identify?

A. Between 600 and 700. So about 650 that we've

been successful in obtaining many leases, but we still have some unleased mineral interest owners who are unlocatable or are unwilling to enter into a voluntary lease.

Q. So what efforts were undertaken to locate and reach an agreement with the remaining unleased mineral interest owners?

A. So because we got permission from the City, we -- the team that I mentioned that we partnered with, Schoeffler Energy Group, in 2017 and all of 2018, we knocked on doors. We left door hangers of information about SPC Resources and who we were. And then we would also go and identify the last known address of record, which could be anywhere in the U.S. And then we also looked for addresses in the Carlsbad and Eddy County phonebook. We also looked at the tax assessor's records, and we also used various common online search tools to locate mineral owners.

Q. And SPC also sent a letter to these unleased owners, and that will be included later as Exhibit 4A?

A. Yes.

And so we would call any numbers that were found in the phonebook. Like I said, we would search all various websites. And then we also hired two local residents who had lived in Carlsbad for over 30 years or

maybe longer, to be honest, who had lived in Carlsbad for many years and who could sometimes help us find families and family members and where they were if we couldn't find their current location of record.

Q. Now, turn to Exhibit 3B. This breaks down the 31.7 percent working interest owners shown held by other parties in the unit.

A. Yes.

Q. What working interest owners remain to be pooled?

A. All those shaded in gray.

Q. And did SPC undertake a good-faith effort to locate every working interest owner that remains to be pooled?

A. Yes. So we have detailed mail tracking records indicating that each of the owners listed in gray was sent a well proposal and accepted same and sent a notice of hearing and accepted same, with the exception of two companies. So if you look at this exhibit, we were unable to locate and unable to secure any kind of delivery. Lignum Oil Company and CMS NOMECO, we believe that those companies no longer exist, and they are no longer in good standing with the Secretary of State.

Q. And in addition to the well-proposal letters, what efforts were undertaken to locate and contact any

uncommitted working interest owners that you seek to pool in these wells?

A. So in addition to making sure that they accepted delivery of a mailout, if they didn't, we made sure that we found an email address and got a response, and we then also looked for their last known address of record, pulled it forward. And so my team has made phone contact or email contact with a representative from every single gray company listed but for the two red companies.

Q. And so is SPC continuing to negotiate with any remaining uncommitted working interest owners?

A. We are, and we will continue to do so due to the nature of these lands.

Q. And could you just explain the status of the discussions like in a general sense with those --

A. Yeah. Absolutely.

So there's sort of three buckets of working interest owners. We've had some -- and they're noted in blue on this same exhibit -- who have indicated an election to participate. So they've returned that paperwork. And we have sent them a joint operating agreement that they're reviewing and may, in fact, sign, or they may decide to participate under the order.

And then we have a bucket of folks who have

conveyed to us that they want to remain a part of this compulsory pooling process. And then we have a host of folks who wish to assign their interests to us, and we're working through the details of picking up those interests.

Q. So will SPC notify the Division if it reaches an agreement with any of these remaining uncommitted working interest owners?

A. Absolutely.

Q. Turning to Exhibit 4A, this is the letter that we mentioned previously that was sent to the unleased mineral interest owners?

A. Yes.

Q. And turning to Exhibit 4B, is this a sample well-proposal letter that was submitted to the working interest owners?

A. Yes, along with AFEs attached for both wells.

Q. Okay. And are the costs reflected on the AFEs consistent with what SPC or other operators have incurred for drilling similar horizontal wells in the area?

A. Yes. So we have COPAS rates of 8,000 a month for drilling wells and 800 a month for producing wells, and we've inserted those same rates into the joint operating agreements.

Q. And are these costs also similar to what SPC and other operators in the area are charging for similar wells?

A. Yes.

Q. Are there any overriding royalty interest owners that require pooling in this case?

A. Yes.

MS. LUCK: And we have included in our packet later on in Exhibit 5C the information that each of the overrides were provided notice of this hearing.

Q. (BY MS. LUCK) And so with this, SPC undertook efforts to provide notice of the hearing by certified mail to all of the interests that remain to be pooled; is that correct?

A. Yes.

Q. So turning to Exhibit 5, this is our notice letter that was sent to all of the parties to be pooled in this case?

A. Yes. And there are two notice letters. You'll note there are two pages. We sent out a letter on August 30th. And then to folks that we realized hadn't accepted certified mail, we re-sent the letter on August 7th, and we also have since contacted all of those folks via phone or email.

Q. And that's -- original letter on August 7th and

you sent it to --

A. Yes. Sorry. I got mixed up.

Q. And so Exhibits 5A, 5B and 5C contain the mail status for the certified letters providing notice of this hearing?

A. Yes.

Q. So 5A provides the tracking information for each of the unleased mineral interest owners?

A. To their best last known address.

Q. And then 5B is the tracking information for the working interest owners?

A. Yes.

Q. And then 5C is the mailing status of the certified letters to the overrides?

A. Yes.

Q. And did the company also provide notice by publication directed by name to the parties that remain to be pooled?

A. Yes.

Q. And that's included as SPC Exhibit C?

A. Yes.

Q. Were Exhibits 1 through 5 prepared by you or compiled under your direction and supervision?

A. Absolutely.

MS. LUCK: And with that, I move the

admission into evidence of SPC Exhibits 1 through 6.

EXAMINER MURPHY: Exhibits 1 through 6 are accepted.

EXAMINER GOETZE: Well, we might take a moment --

(Mr. Bruce enters the room, 11:34 a.m.)

MR. BRUCE: Mr. Examiner, Jim Bruce representing Mewbourne Oil Company.

I have no objection to anything.

EXAMINER GOETZE: Okay. Well, my understanding is that -- we had already had a discussion about Mewbourne has been satisfied to a point.

MR. BRUCE: Correct.

EXAMINER GOETZE: Okay.

Continue.

THE WITNESS: Thank you.

EXAMINER MURPHY: Exhibits 1 through 6 will be admitted.

(SPC Resources, LLC Exhibit Numbers 1 through 6 are offered and admitted into evidence.)

MS. LUCK: And I have no further questions for this witness.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. My turn.

So thank you very much for having gone through the effort of dealing with the City. I'm sure you didn't have any choice once you found out property belonged to them.

Has there been any concern raised with regards to the County, the City and other public entities having mineral rights as far as having the authority to lease it out? Is this something that's common?

A. So no problems. That's where we started. So we approached the City first, and they passed an official ordinance. And I believe 2017-28 is the official ordinance where they adopted right to enter into a lease with us. The school board followed suit. And we actually just secured the County lease yesterday. So you'll see a whited-out line -- I don't know what page it is -- in the unleased mineral interest owner exhibit. That has a white-out line, and that's because we secured the County lease that rolled in yesterday.

Q. And how long did this entire process take?

A. Yes. So we kicked it off at the end of 2016, which John will talk about a little bit more, because he

is the reason that we took this on because he identified some sections that looked prospective but were a step-out. And then we took basically all of 2017 to identify the owners and find them. And then we used all of '18 to secure leases. So we closed up the office in Carlsbad at the end of '18. But it was fully staffed with close to 20 individuals for a solid year and a half.

Q. And then we're using for building blocks in the horizontal spacing unit the 320 acres; is that correct?

A. Yes, sir.

Q. No more questions. Thank you.

A. Thank you.

EXAMINER MURPHY: I have no more questions.

THE WITNESS: Thanks.

CROSS-EXAMINATION

BY EXAMINER DAVID:

Q. Well, I really applaud the effort that you guys made to try to find these, and I appreciate you -- through your attorney, you kind of hit all the issues that I would ask questions about.

Thank you for identifying the line that was whited out. That was one question I had just, for the record. So to the best of your knowledge, the -- the --- the tables that have the -- that show the

results of mailing out the notices, to the best of your knowledge, these are complete and all -- and all the identified property owners, you verified that each name was on here?

A. Yes. So those are complete and accurate, and I had to cut it off at about 3:30 p.m. yesterday. So we were whiting out up until that point yesterday.

And I do want to go on the record to say that we will continue to work with anybody who surfaces on voluntary agreements because it makes a lot more sense to us to have paperwork. So whether that be lessors that want to, in fact, lease to us and/or working interest owners, because you'll see the working interest owner list. They own teeny, tiny interests. So we don't want to use compulsory pooling against anyone, but we really just need it for all the folks that we couldn't locate and the folks that just don't understand that they own a really small, tiny mineral interest inside of the City of Carlsbad because it was their grandfather's house or their great grandfather's house.

Q. And for the -- the Notice of Publication by notice -- at the time of notice, that the list of individuals on the -- I mean, you verified that all the identified property interests are actually --

A. Absolutely. That's a snapshot in time. There are definitely folks that have come off of that. I mean, just since we did the mail-out at the beginning of August, we've had between 10 and 12 leases roll in. So that was a snapshot in time at the very end of July of everyone that still remained to be compulsory pooled. But folks have come off of that since then.

Q. Understood. Thank you very much.

A. Thank you.

No more questions?

EXAMINER MURPHY: No.

THE WITNESS: Okay. Thank you.

MS. LUCK: And with that, I'd call my next witness, John Weihe.

JOHN WEIHE,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. LUCK:

Q. Will you state your name for the record, identify by whom you're employed and in what capacity?

A. My name is John Weihe, and I'm employed by Santo Petroleum Company, which is the parent of SPC Resources, as exploration manager. That's my position.

Q. And have you previously testified before the

Division?

A. No.

Q. Please provide the examiners with your educational background.

A. I have a bachelor's of science in geophysical engineering from the Colorado School of Mines.

Q. And detail your work experience.

A. I've worked for Santo Petroleum for the last three-and-a-half years as exploration manager, and prior to that, I worked for close to 15 years for Callon Petroleum Company. I was hired as a geologist in 2000 with Callon. Prior to that, I worked British Borneo and ENI for four years. And then I was hired out of college by Unocal and worked with them for 13 years prior to that.

Q. And are you a member of any professional organization or associations?

A. I am. I'm a member of PSEG and the Roswell Geological Society.

Q. Are you familiar with the application filed by SPC Resources in this case?

A. Yes, I am.

Q. And have you conducted a geological study of the lands that are the subject of this application?

A. Yes, I have.

Q. And like Nicole mentioned earlier, could you just explain a little bit more your involvement in this project?

A. Sure. So back in 2016, we initiated regional mapping and trying to identify prospectivity, and we identified it, of course, in many areas of New Mexico. And this was exclusively in the Delaware Basin of New Mexico. And one of the areas was in the City of Carlsbad, and that kind of picks up the story where Miss Nicole was talking about as far as initiating studies to, you know, really look at the feasibility of leasing there, and, of course, doing a lot of research on any kind of seismic concerns there might be, research on the brine well, all kinds of things to just ensure feasibility, and then we -- and then we started leasing --

MS. LUCK: And so with that, I tender Mr. Weihe as an expert in petroleum geology.

EXAMINER DAVID: Mr. Bruce is on record as no objection so -- unless he interrupts us, I think we can --

EXAMINER MURPHY: So qualified.

MS. LUCK: Thank you.

THE WITNESS: Thank you.

Q. (BY MS. LUCK) So what is the target interval

Carlsbad Current Argus.

COLUMNISTS | **Opinion** *This piece expresses the views of its author(s), separate from those of this publication.*

Mayor's August progress report

Dale Janway Mayor, City of Carlsbad

Published 1:00 a.m. MT Aug. 27, 2017 | **Updated 1:12 p.m. MT Aug. 28, 2017**

At last week's special Carlsbad City Council meeting, City Council voted to allow a Southeastern New Mexico company permission to begin purchasing mineral rights within the city limits. This door-to-door campaign will include thousands of residents who own minerals rights and is a process that could take up to several years to complete. The company, Santo Petroleum, ultimately plans to use horizontal drilling to access oil about two miles beneath the surface. Santo Petroleum is owned by Peyton and Hanson Yates. If you have questions, please contact Santo's local office at 575-689-6386.

The City of Carlsbad does not regulate Oil & Gas drilling. Drilling is regulated through the Oil Conservation Division of New Mexico's Energy, Minerals and Natural Resources Department. Having said that, what we have done is reviewed the issue extensively with our long time city hydrologist, our Oil and Gas drilling consultants and Dr. Ned Elkins former Mayor Pro-tem who drafted the City of Carlsbad's oil and gas ordinance. This group is working closely with Santo Petroleum's Technical Staff to keep safety and the integrity of the Capitan aquifer as the top priority.

We recognize this is a process that has been done safely and successfully at thousands of other locations around the country, and that this drilling will occupy a very small amount of space nearly two miles beneath the surface. This effort will not be in the vicinity and will have no known impact on the brine well, which is only 400 feet below the surface. Santo's wells will be safely positioned outside of the half-mile radius that comprises the "Area of Review" set by State of New Mexico Regulations for oil and gas development.

MORE: Oil company wants to drill under Carlsbad city limits

The City of Carlsbad is committed to protecting its constituents and keeping the public informed. We take our responsibilities seriously and will continue to work with Santo and members of the public to make sure everyone best understands the situation. We very much value our local oil and gas partners and the tremendous economic impact we've seen in this

area thanks to them, but we also will always make sure that safety is the first priority.

Speaking of the oil and gas industry, please mark your calendar for Oct. 16 for the 5th annual Carlsbad Mayor's Energy Summit. This year's theme is going to be "Carlsbad: The New Energy Frontier." The free, open to the public event will be from 8 a.m. to 1 p.m. at the civic center auditorium, and as always, we have a group of the best experts to tell us what they see in the future.

Special thanks to Jeff Diamond and the many dedicated men and women who worked so hard on the Avalon Ranch application to acquire key operating funds for a treatment facility for women with children and pregnant women. Many of these volunteers worked untold hours to help complete the application on time, especially Beverly Allen, with Senator Udall's office, and Representative Cathrynn Brown. This is truly a nonpartisan event that is important to everyone. Also providing tremendous support to the Avalon Ranch effort have been Dan and Carolyn Banks, Larry Coalson, Kirstin Carlson, Phillip Huston, Anne Martin, Donna French, Woods Houghton and Rob Clements.

MORE: Mayor's July progress report

We are committed to doing what we can to solving the opioid crisis, and to giving people the opportunity to become constructive citizens. Philip Huston and the team with the Carlsbad LifeHouse Inc. have been doing an excellent job of addressing one facet of that service. This faith-based program has been helping people readjust to the world, and they are doing a great job. We will continue to support these commendable efforts.

The Waste Isolation Pilot Plant has many dedicated professionals, many of whom have been with the project since before WIPP began accepting waste. Susan Scott was a Nuclear Waste Partnership employee who represented all that is good about WIPP – integrity and a focus on safety and community. Susan retired this past week, and we wish her the very best.

One of Carlsbad's most trusted citizens turns 90 on Sept. 4, and please join me in wishing a very happy birthday to retired educator, actor, and radio and TV host Bob Scholl. Bob really is an inspiration to all of us – he can be seen walking around town going to and from his multiple engagements. We enjoy watching his "Faces of Carlsbad" show on Channel 23 and listening to him on KCCC Radio. One friend called him the Walter Cronkite of Carlsbad. So many of his dear friends were students of his over the years, and then their children were his students as well. Carlsbad is truly a great community thanks to amazing citizens such as Bob Scholl.

If you have any questions or suggestions, please call 575-887-3798.

"TAKE PRIDE IN CARLSBAD"

SPC RESOURCES, LLC

June 17, 2021

Delivered Via Certified Mail and E-Mail
Oil Conservation Division
Energy, Minerals and Natural Resources Department of New Mexico
Attn: Adrienne Sandoval, Division Director
1220 South St. Francis Drive
Santa Fe, NM 87505
Email: Adrienne.Sandoval@state.nm.us

Re: SPC Resources, LLC – Caveman 402H
Eddy County, NM

Dear Ms. Sandoval,

SPC Resources, LLC (**"SPC"**), an affiliate of Santo Petroleum LLC, is the designated operator of the following two permitted horizontal wells in Eddy County: (i) the Caveman 402H (API#: 30-015-47629) and (ii) Caveman 7 12 WCD #003H (API#: 30-015-47689) (**"SPC Wells"**). The NMOCD approved the most recent APDs for the SPC Wells in November of 2020. Both SPC Wells have surface hole locations approximately 1.4 miles north of the brine well remediation project (**"Brine Well Area"**), as depicted on the map attached hereto as **Exhibit "A."**

SPC is aware the NMOCD has made a verbal request to another operator to delay completion operations of four drilled-uncompleted horizontal wells in the vicinity of the Brine Well Area while an additional study of the Brine Well Area is finalized.

Since we have yet to receive any communication from the NMOCD with respect to our approved APDs in the area, we are proactively contacting you to provide the following information:

(i) Notice of Planned Operations on Caveman 402H

We are hereby notifying you of our plans to spud the Caveman 402H in late June/early July 2021 and complete it in late September/early October 2021. We have contracted a rig to drill the well, begun dirt work on our location, and scheduled our frac. At this time, we plan to return at a future date to drill and complete the Caveman 7 12 WCD #003H.

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-7
Submitted by: SPC Resources, LLC
Hearing Date: September 9, 2021
Case No. 22102

(ii) Data from Brine Well Area Monitoring During D&C of Two Closest Offset Wells

As you are aware, the State began collecting microseismic data via monitoring systems at the Brine Well Area in 2014, and our analysis of this data, which we began in 2017 while purchasing oil and gas interests in the vicinity, makes us comfortable our operations will have no material seismic impact on the Brine Well Area.

The monitoring reports now available via the NMOCD website include seismic data collected during the drilling and hydraulic fracturing of the two horizontal oil and gas wells closest to the Brine Well Area, which are: (i) the COG Operating LLC – CCAP State Com 6H, with a closest perforation approximately one mile laterally from the Brine Well Area and at a subsurface depth of 8,706' TVD and (ii) the Devon Energy Production Company, LP – Grandi 22 2H, with a closest perforation approximately two miles laterally from the Brine Well Area at a subsurface depth of 7,416' TVD. Both wells are shown on Exhibit "A."

We have attached as **Exhibit "B"** snapshots of the Brine Well Area monitoring data from the periods in time the CCAP and the Grandi wells were drilled and completed. **It is SPC's interpretation of the data displayed on Exhibit "B" that drilling and completing the CCAP (~1 mile laterally from Brine Well Area) and Grandi (~2 miles) resulted in no material recorded seismic events at the Brine Well Area. We, therefore, firmly believe SPC's drilling and completion activity at the Caveman 402H (1.4 miles) will also have the same results.**

For additional background information, SPC has been very mindful of the Brine Well Area since prior to beginning our leasing program in the Carlsbad area in 2017. SPC purposefully did not include in its development plans any of the lands within the 0.5-mile area of review around the Brine Well Area established by NMOCD policy on January 9, 2009 (**"AOR"**). We then worked closely with the City of Carlsbad and its technical advisors to ensure both the City and SPC were still comfortable with oil and gas operations, insofar as they pertained to the Brine Well Area, that were situated outside NMOCD's AOR. In 2017, the raw monitoring data and reports were not publicly available, but SPC provided date ranges of the drilling and completion activity of the CCAP and Grandi wells to AMEC Foster Wheeler ("AMEC"), the contractor overseeing the Brine Well Area at the time. In turn, AMEC provided verbal confirmation that the operations on those wells did not result in any material seismic event at the Brine Well Area. Now that the monitoring reports are publicly available, we can confirm the same conclusions that were voiced to us by AMEC in 2017.

Based on our interpretation of the seismic data monitoring reports in Exhibit "B," SPC expects its operations will have no material seismic impact on the Brine Well Area and, therefore, plan to proceed in short order with our operations on the Caveman 402H as set forth above. We trust the NMOCD is aware that any action or demand to cease or delay our drilling and/or completion plans would have a significant operational and financial impact on SPC as well as other leasehold and royalty owners in our NMOCD-approved unit, which include the City of Carlsbad, Carlsbad Municipal Schools, and Eddy County, and that any such action or demand issued ***after*** drilling but ***before*** completion would further exacerbate such impacts.

Please do not hesitate to contact me directly with any questions pursuant to this letter at 713-600-7500 or hyates@santopetroleum.com.

Best regards,

Hanson Yates

President

cc:

Tiffany Polak, Tiffany.Polak@state.nm.us

Jim Griswold, Jim.Griswold@state.nm.us

EXHIBIT "A"

MAP OF SPC RESOURCES APDs AND BRINE WELLS

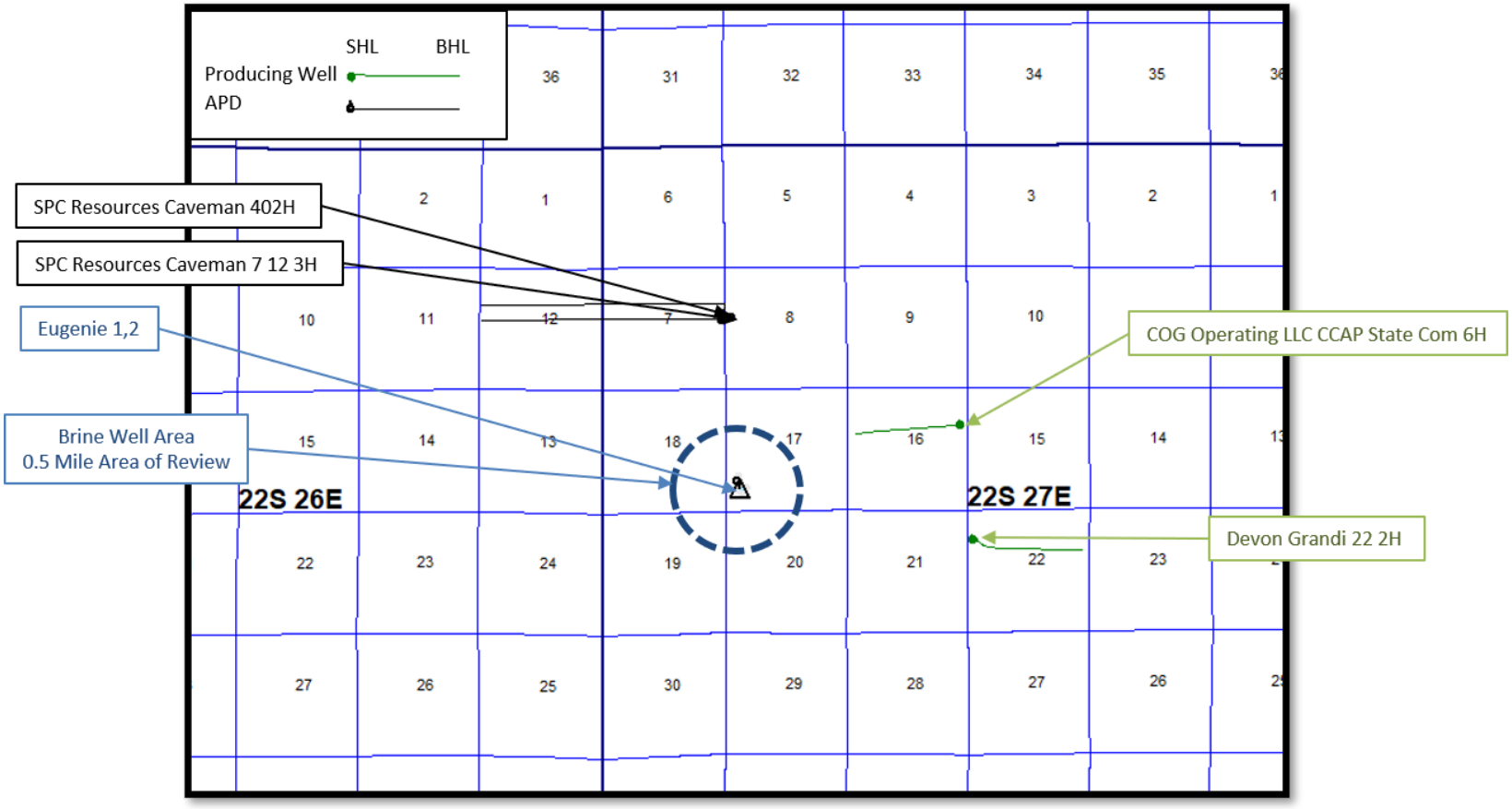
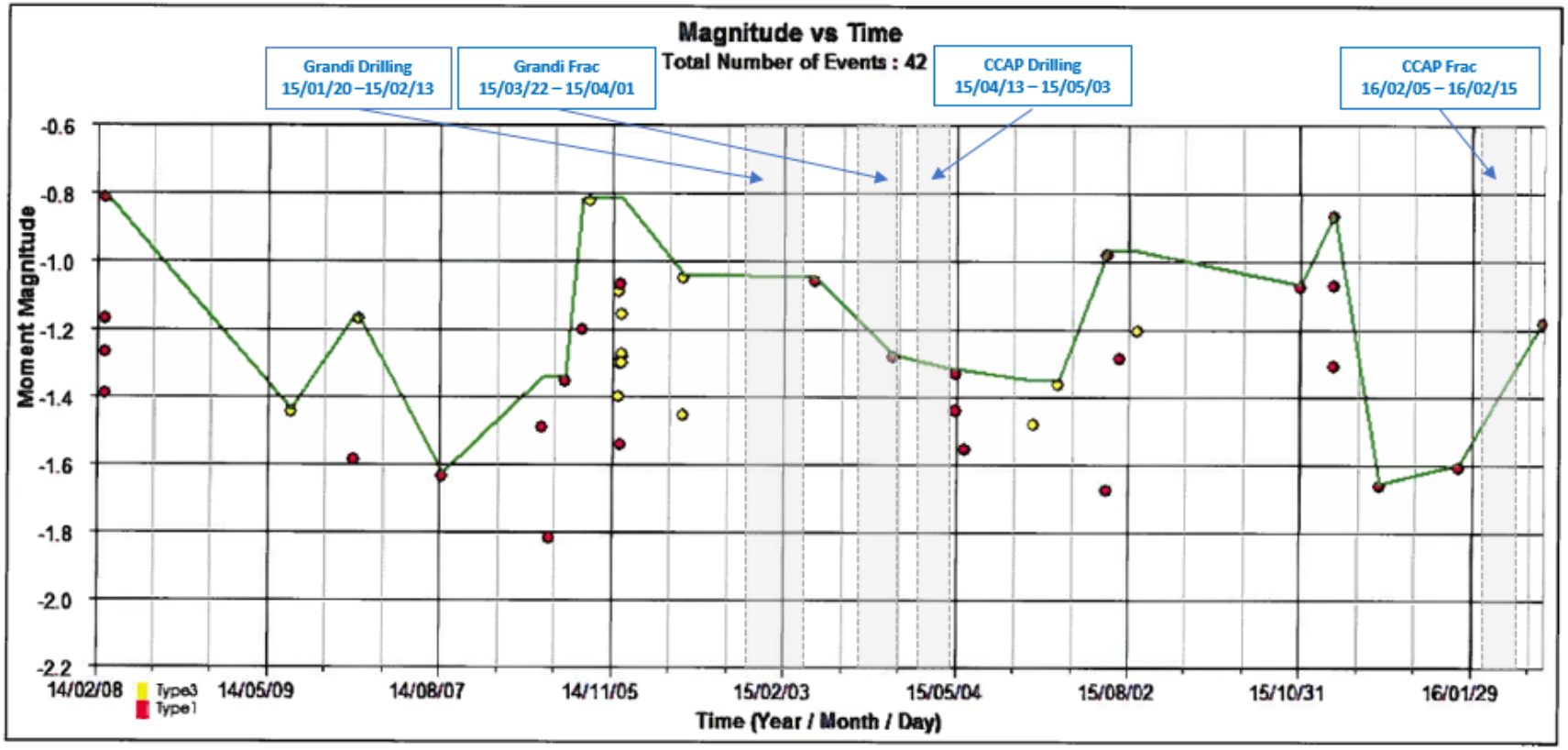


EXHIBIT "B"

DATA FROM BRINE WELLS MONITORING DURING D&C OF TWO CLOSEST OFFSET WELLS



Data Source: Presentation attached to the letter dated August 5, 2016 from AMEC Foster Wheeler to the attention of Jim Griswold at the NMOCD regarding "Task 1a Site Monitoring – Summary of Instrument Responses to Microseismic Events Reported by ESG Seismic Monitoring for the Period of December 1, 2015 through May 31, 2016." Graph is on page 13 of the ESG presentation and page 36 of the PDF. The file is located on the NMCOD FTP site (ftp://164.64.106.6/Public/CBWRA/ArchivedSiteMonitoringReports/) in the folder labeled "2016" in the document entitled DOC083.pdf.

[See SPC notes on above graph on following page]

EXHIBIT "B" (CONTINUED)

SPC Notes on Above Graph of Data from Brine Well Area Monitoring Stations

- No material seismic events were recorded at the Brine Well Area during the period of time shown on the above graph from February 2, 2014 to March 7, 2016, including during the drilling or completion operations of the CCAP (~1 mile laterally from Brine Well Area) and Grandi (~2 miles).

- The only Type 1 seismic event to occur during the drilling or completion operations of the CCAP or Grandi wells was a Type 1 event of -1.28 Mw at the end of the completion operations of the Grandi well on April 1, 2015. It appears unlikely to SPC that the small event was related to the Grandi operations, but nonetheless, that Type 1 event was not material. By way of comparison, the Texas earthquake on March 26, 2020 with an epicenter approximately 33 miles south of the Brine Well Area was around 500 Million (5 x 10^8) times *more* powerful than the Type 1 event registered at the Brine Well Area on April 1, 2015.

- Lastly, the following comment is listed under the above graph on the ESG data report: "Considering back to January 2014, the largest events (-0.8Mw) were recorded on February 12, 2014 and October 24, 2014." Note that those two largest events were recorded during periods of time before the operations of the CCAP or Grandi wells and were also still immaterial to the Brine Well Area.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. A-8
Submitted by: SPC Resources, LLC
Hearing Date: September 9, 2021
Case No. 22102

IN RE APPLICATION FOR PERMIT TO DRILL
CAVEMAN 7-12 WCXY 2H FILED BY SPC RESOURCES, LLC

EMERGENCY ORDER

The Director of the New Mexico Oil Conservation Division ("Division") issues this Emergency Order to suspend its approval of the Application for Permit to Drill ("Application to Drill") for the Caveman 7-12 WCXY 2H well, renamed the Caveman 402H well, filed by SPC Resources, LLC ("SPC").

FINDINGS OF FACT

1. The Division has jurisdiction over SPC and the subject matter herein.

2. On November 5, 2020, SPC filed the Application to Drill the Caveman 7-12 WCXY 2H well. Exhibit 1.

3. On November 5, 2020, the Division approved the Application to Drill.

4. On March 11, 2021, SPC filed a sundry to rename the well as "Caveman 402H". Exhibit 2.

5. On June 30, 2021, SPC informed the Division that it intends to commence drilling the Caveman 402H well on or about July 5, 2021.

6. Upon information and belief, SPC intends to complete the well immediately after drilling it.

7. The Division is managing a remediation project for the Carlsbad Brine Well which lies in proximity to the proposed location of drilling and completion for the Caveman 402H well.

8. To date, the state of New Mexico, Eddy County, and the City of Carlsbad have invested approximately $85 million in the remediation project.

9. Work on the remediation project is ongoing, with the final phase still pending.

10. SPC's intent to drill and complete the Caveman 402H well on its proposed schedule poses a clear and immediate risk of harm to stability of the Carlsbad Brine Cavern and the successful completion of the remediation project.

11. Pursuant to Section 70-2-23 of the Oil and Gas Act, the Division finds that an emergency exists regarding SPC's intent to drill and complete the Caveman 402H well on its proposed schedule that requires the suspension of the Application to Drill without a hearing.

ORDER

12. To protect the Carlsbad Brine Well and the ongoing remediation project and to prevent collateral injury to life, property, environment, public infrastructure, and neighboring properties, the Division hereby ORDERS that SPC's Application to Drill the Caveman 402H well is suspended, and any action by SPC to drill or complete the Caveman 402 well is prohibited.

13. This Emergency Order shall remain in force for fifteen (15) days from the date of signature by the Division Director.

14. The Division retains jurisdiction of this matter for the entry of such further orders as it may deem necessary.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

ADRIENNE SANDOVAL
DIRECTOR

Date: 7/2/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 288270

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
SPC RESOURCES, LLC P.O. Box 1020 Artesia, NM 88211	372262
	3. API Number 30-015-47629

4. Property Code	5. Property Name	6. Well No.
329783	CAVEMAN 7 12 WCXY	002H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
E	8	22S	27E	E	2271	N	240	W	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
E	12	22S	26E	E	1650	N	100	W	Eddy

9. Pool Information

PURPLE SAGE;WOLFCAMP (GAS)	98220

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	GAS		Private	3099
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	19472	Wolfcamp		1/4/2021
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	425	430	0
Int1	12.25	10.75	40.5	2800	500	0
Prod	8.75	5.5	20	19458	2545	9152
Prod	9.875	5.5	20	9152	2020	0

Casing/Cement Program: Additional Comments

Plan to drill production interval from 1800 to bottom of curve at 9152 with 9-7/8" in order to have 7-5/8" contingency option. After tripping for a bit, we will drill 8.75" open hole in lateral. Then run 5.5" long string and cement with 4565 sxs of cement.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	3000	2000	Shaffer
Pipe	5000	3500	Shaffer
Blind	5000	3500	Shaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.** Signature:		**OIL CONSERVATION DIVISION**	
Printed Name:	Electronically filed by Lelan J Anders	Approved By:	Kurt Simmons
Title:	Vice President of Operations	Title:	Petroleum Specialist - A
Email Address:	landers@santopetroleum.com	Approved Date:	11/5/2020 Expiration Date: 11/5/2022
Date:	11/4/2020 Phone: 713-600-7502	Conditions of Approval Attached	

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DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
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State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 4, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	98220	PURPLE SAGE WOLFCAMP GAS POOL

Property Code	Property Name	Well Number
	CAVEMAN 7-12 WCXY	2H

OGRID No.	Operator Name	Elevation
	SPC RESOURCES, LLC	3099

Surface Location

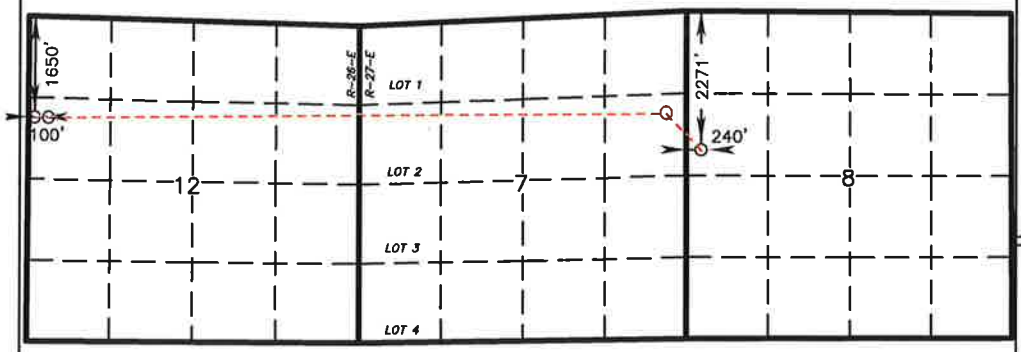
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
E	8	22 S	27 E		2271	NORTH	240	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
E	12	22 S	26 E		1650	NORTH	100	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1267.1			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



BOTTOM HOLE LOCATION
Lat - N 32.410061
Long - W 104.254726
NMSPCE- N 512920.2
E 565595.8
(NAD-83)

LAST TAKE POINT
1650 FNL & 330 FWL
Lat - N 32.410039
Long - W 104.253981
NMSPCE- N 512912.4
E 565826.0
(NAD-83)

FIRST TAKE POINT
1650 FNL & 330 FEL
Lat - N 32.410231
Long - W 104.221300
NMSPCE- N 512991.2
E 575910.6
(NAD-83)

SURFACE LOCATION
Lat - N 32.408564
Long - W 104.219452
NMSPCE- N 512385.6
E 576482.0
(NAD-83)

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unLEAsed mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

11/2/2020
Signature Date

Lelan J Anders
Printed Name

LAnders@SantoPetroleum.com
Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

Date Surveyed: MAY 31, 2019
Signature & Seal of Professional Surveyor
NEW MEXICO 7977 REGISTERED PROFESSIONAL LAND SURVEYOR
Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 2000' 4000' 6000' 8000' N
SCALE: 1" = 4000'
WO Num.: 34729

BEFORE THE OIL CONSERVATION DIVISION
Santa Fe, New Mexico
Exhibit No. 2A
Submitted by: **SPC Resources, LLC**
Hearing Date: September 19, 2019
Case No. 20762

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 11/5/2020

☒ Original

☐ Amended - Reason for Amendment:

Operator & OGRID No.: [372262] SPC RESOURCES, LLC

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
CAVEMAN 7 12 WCXY #002H	30-015-47629	E-8-22S-27E	2271N 0240W	2500	None	Plan to tie into Enterprise B-4 lateral. Will have 2 stage compressor at CTB on Douglas COM 1 Pad

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to ENTERPRISE FIELD SERVICES L.L.C. and will be connected to ENTERPRISE FIELD SERVICES L.L.C. High Pressure gathering system located in Eddy County, New Mexico. It will require 7300' of pipeline to connect the facility to High Pressure gathering system. SPC RESOURCES, LLC provides (periodically) to ENTERPRISE FIELD SERVICES L.L.C. a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, SPC RESOURCES, LLC and ENTERPRISE FIELD SERVICES L.L.C. have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at ENTERPRISE FIELD SERVICES L.L.C. Processing Plant located in Sec. 31, Twn. 23S, Rng. 28E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on ENTERPRISE FIELD SERVICES L.L.C. system at that time. Based on current information, it is SPC RESOURCES, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Comments

Permit 288270

PERMIT COMMENTS

Operator Name and Address:	API Number:
SPC RESOURCES, LLC [372262] P.O. Box 1020 Artesia, NM 88211	30-015-47629
	Well: CAVEMAN 7 12 WCXY #002H

Created By	Comment	Comment Date

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1625 N. French Dr., Hobbs, NM 88240
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Form APD Conditions

Permit 288270

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
SPC RESOURCES, LLC [372262] P.O. Box 1020 Artesia, NM 88211	30-015-47629
	Well: CAVEMAN 7 12 WCXY #002H

OCD Reviewer	Condition
kpickford	Will require a directional survey with the C-104
kpickford	Surface casing must be set 25' below top of the salt in order to seal off protectable water
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.
kpickford	Will require administrative order for non-standard spacing unit
kpickford	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing

SANTO PETROLEUM

Hydrogen Sulfide Drilling Operations Plan

SPC Resources, LLC
101 S. 4th Street, Suite B
Artesia, NM 88210
(575) 736-3250

1. H_2S Safety Instructions to the following:
    - Characteristics of H_2S.
    - Physical effects and hazards.
    - Principal and operation of H_2S detectors, warning system and briefing areas.
    - Evacuation procedures, routes and First Aid.
    - Proper use of safety equipment and life support systems.
    - Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30 min pressure demand air packs.

2. H_2S Detection & Alarm Systems:
    - H_2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud returns pits by the shale shaker. Additional H_2S monitors may be placed as deemed necessary.
    - An audio alarm system will be installed on the derrick, the floor, and in the doghouse.

3. Windsocks and Wind Streamers:
    - Windsocks at mud pit area should be high enough to be visible.
    - Windsock on the rig floor/top of doghouse should be high enough to be visible.

4. Condition Flags & Signs:
    - Warning sign on access road to location
    - Flags to be displayed on sign at entrance to location
        i. Green Flag – Normal Safe Operation Condition
        ii. Yellow Flag – Potential Pressure and Danger
        iii. Red Flag – Danger (H_2S present in dangerous concentrations) Only H_2S trained personnel admitted on location

5. Well Control Equipment:
    - See attached APD

6. Communications:
    - While working under masks, chalkboards will be used for communications
    - Hand signals will be used where chalk board is inappropriate
    - Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at drilling foreman's trailer or living quarters.

7. Drilling Stem Testing:
    - No Drill Stem Tests or hole coring is planned at this time.

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavenger chemicals if necessary.

10. Emergency Contacts:

Emergency Contact Information - Santo Personnel				
Santo Petroleum, LLC	**Artesia Office**	575-736-3250	**Houston**	713-600-7500
Key Parties at Santo Petroleum	**Title**	**Office**	**Mobile**	**Email**
Gary Waldrop	Field Land Manager	575-736-3256	469-261-3446	gwaldrop@santopetroleum.com
Lelan J Anders	VP, Operations	713-600-7502	281-908-1752	landers@santopetroleum.com
Hanson Yates	President	713-600-7503	713-412-2097	hyates@santopetroleum.com

Carlsbad, New Mexico:	
Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
New Mexico Oil Conservation Division	575-887-6544

SANTO
PETROLEUM

Santa Fe, New Mexico:	
New Mexico Emergency Response Commission	505-476-9600
New Mexico Emergency Response Commission (24 hr)	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

Federal Contacts:	
Carlsbad BLM Office	575-234-5972
National Emergency Response Center (Washington, DC)	800-424-8802

Medical:	
Flight for Life - Lubbock, TX	806-743-9911
AeroCare - Lubbock, TX	806-747-8923
Med Flight Air Ambulance - Albuquerque, NM	505-842-4433
SB Air Med Service - Albuquerque, NM	505-842-4949

Well Control/Other:	
Wild Well Control	281-784-4700
Boots & Coots IWC	800-256-9688
B.J. Services	575-746-3569
Halliburton	575-746-2757

Santo Petroleum

Eddy County, NM (NAD 83 - NME)
Caveman Unit
#402H

Wellbore #1

Plan: PERMIT

Standard Survey Report

03 November, 2020

PRELIMINARY

Company: Santo Petroleum
Project: Eddy County, NM (NAD 83 - NME)
Site: Caveman Unit
Well: #402H
Wellbore: Wellbore #1
Design: PERMIT

WELL DETAILS: #402H

Rig Name: Est RKB = 25' @ 3124.00usft
3099.00

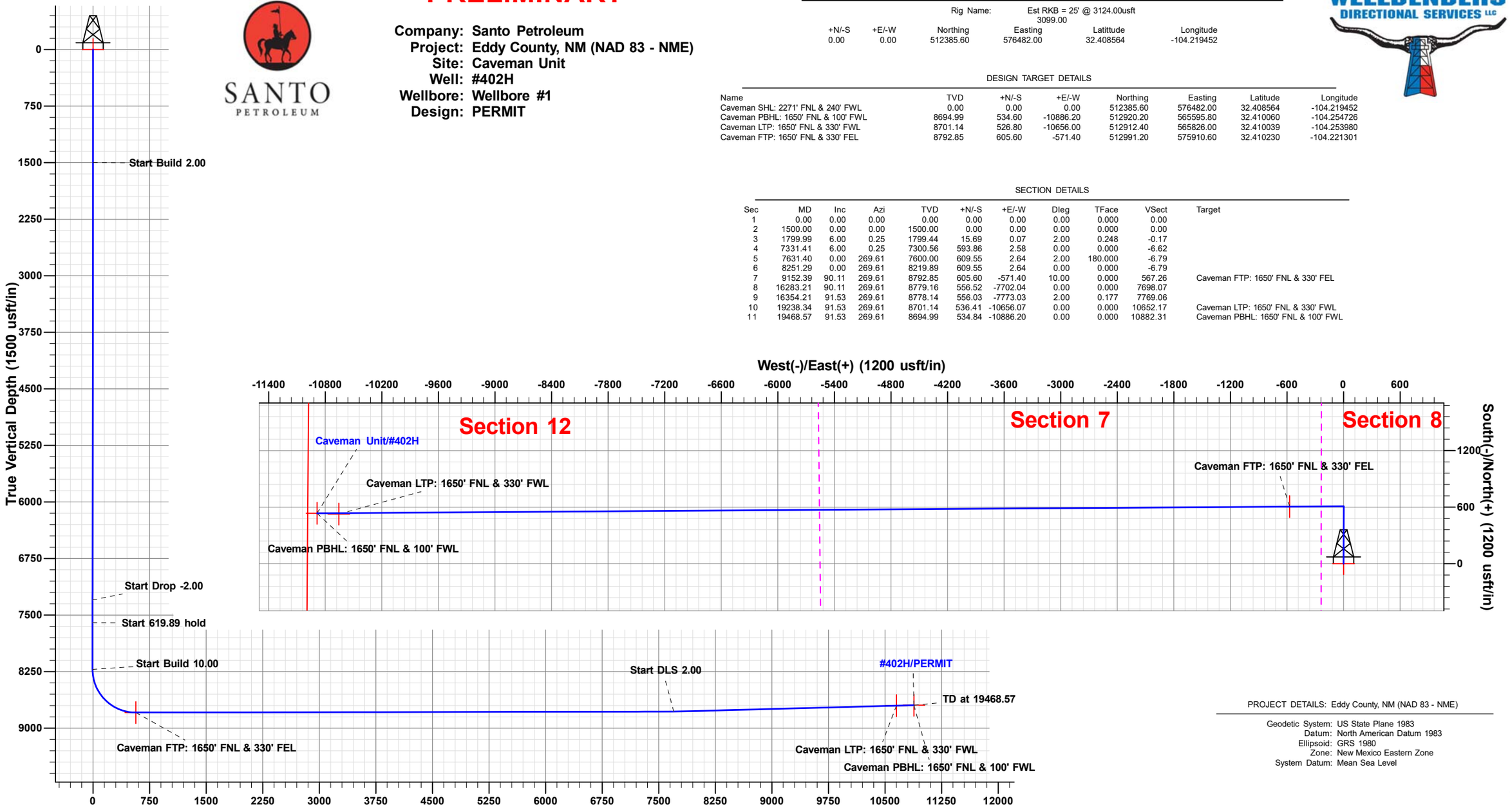
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	512385.60	576482.00	32.408564	-104.219452

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Caveman SHL: 2271' FNL & 240' FWL	0.00	0.00	0.00	512385.60	576482.00	32.408564	-104.219452
Caveman PBHL: 1650' FNL & 100' FWL	8694.99	534.60	-10886.20	512920.20	565595.80	32.410060	-104.254726
Caveman LTP: 1650' FNL & 330' FWL	8701.14	526.80	-10656.00	512912.40	565826.00	32.410039	-104.253980
Caveman FTP: 1650' FNL & 330' FEL	8792.85	605.60	-571.40	512991.20	575910.60	32.410230	-104.221301

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.000	0.00	
3	1799.99	6.00	0.25	1799.44	15.69	0.07	2.00	0.248	-0.17	
4	7331.41	6.00	0.25	7300.56	593.86	2.58	0.00	0.000	-6.62	
5	7631.40	0.00	269.61	7600.00	609.55	2.64	2.00	180.000	-6.79	
6	8251.29	0.00	269.61	8219.89	609.55	2.64	0.00	0.000	-6.79	
7	9152.39	90.11	269.61	8792.85	605.60	-571.40	10.00	0.000	567.26	Caveman FTP: 1650' FNL & 330' FEL
8	16283.21	90.11	269.61	8779.16	556.52	-7702.04	0.00	0.000	7698.07	
9	16354.21	91.53	269.61	8778.14	556.03	-7773.03	2.00	0.177	7769.06	
10	19238.34	91.53	269.61	8701.14	536.41	-10656.07	0.00	0.000	10652.17	Caveman LTP: 1650' FNL & 330' FWL
11	19468.57	91.53	269.61	8694.99	534.84	-10886.20	0.00	0.000	10882.31	Caveman PBHL: 1650' FNL & 100' FWL



PROJECT DETAILS: Eddy County, NM (NAD 83 - NME)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level

Plan: PERMIT (#402H/Wellbore #1)
Created By: Matthew May Date: 20:08, November 03 2020

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Project Eddy County, NM (NAD 83 - NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Caveman Unit

Site Position:		**Northing:**	512,385.60 usft	**Latitude:**	32.408564
From:	Map	**Easting:**	576,482.00 usft	**Longitude:**	-104.219452
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.061 °

Well #402H

Well Position	**+N/-S**	0.00 usft	**Northing:**	512,385.60 usft	**Latitude:**	32.408564
	+E/-W	0.00 usft	**Easting:**	576,482.00 usft	**Longitude:**	-104.219452
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,099.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	11/02/20	6.903	60.086	47,633.77449642

Design PERMIT

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.61

Survey Tool Program **Date**

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	19,468.57	PERMIT (Wellbore #1)	MWD+IGRF	OWSG MWD + IGRF or WMM

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	2.00	0.25	1,599.98	1.75	0.01	-0.02	2.00	2.00	0.00
1,700.00	4.00	0.25	1,699.84	6.98	0.03	-0.08	2.00	2.00	0.00
1,799.99	6.00	0.25	1,799.44	15.69	0.07	-0.17	2.00	2.00	0.00
1,900.00	6.00	0.25	1,898.90	26.15	0.11	-0.29	0.00	0.00	0.00
2,000.00	6.00	0.25	1,998.36	36.60	0.16	-0.41	0.00	0.00	0.00
2,100.00	6.00	0.25	2,097.81	47.05	0.20	-0.52	0.00	0.00	0.00
2,200.00	6.00	0.25	2,197.26	57.50	0.25	-0.64	0.00	0.00	0.00
2,300.00	6.00	0.25	2,296.71	67.96	0.29	-0.76	0.00	0.00	0.00
2,400.00	6.00	0.25	2,396.17	78.41	0.34	-0.87	0.00	0.00	0.00
2,500.00	6.00	0.25	2,495.62	88.86	0.39	-0.99	0.00	0.00	0.00
2,600.00	6.00	0.25	2,595.07	99.31	0.43	-1.11	0.00	0.00	0.00
2,700.00	6.00	0.25	2,694.52	109.77	0.48	-1.22	0.00	0.00	0.00
2,800.00	6.00	0.25	2,793.97	120.22	0.52	-1.34	0.00	0.00	0.00
2,900.00	6.00	0.25	2,893.43	130.67	0.57	-1.46	0.00	0.00	0.00
3,000.00	6.00	0.25	2,992.88	141.12	0.61	-1.57	0.00	0.00	0.00
3,100.00	6.00	0.25	3,092.33	151.57	0.66	-1.69	0.00	0.00	0.00
3,200.00	6.00	0.25	3,191.78	162.03	0.70	-1.81	0.00	0.00	0.00
3,300.00	6.00	0.25	3,291.24	172.48	0.75	-1.92	0.00	0.00	0.00
3,400.00	6.00	0.25	3,390.69	182.93	0.79	-2.04	0.00	0.00	0.00
3,500.00	6.00	0.25	3,490.14	193.38	0.84	-2.15	0.00	0.00	0.00
3,600.00	6.00	0.25	3,589.59	203.84	0.88	-2.27	0.00	0.00	0.00
3,700.00	6.00	0.25	3,689.04	214.29	0.93	-2.39	0.00	0.00	0.00
3,800.00	6.00	0.25	3,788.50	224.74	0.97	-2.50	0.00	0.00	0.00
3,900.00	6.00	0.25	3,887.95	235.19	1.02	-2.62	0.00	0.00	0.00
4,000.00	6.00	0.25	3,987.40	245.65	1.07	-2.74	0.00	0.00	0.00
4,100.00	6.00	0.25	4,086.85	256.10	1.11	-2.85	0.00	0.00	0.00
4,200.00	6.00	0.25	4,186.31	266.55	1.16	-2.97	0.00	0.00	0.00
4,300.00	6.00	0.25	4,285.76	277.00	1.20	-3.09	0.00	0.00	0.00
4,400.00	6.00	0.25	4,385.21	287.46	1.25	-3.20	0.00	0.00	0.00
4,500.00	6.00	0.25	4,484.66	297.91	1.29	-3.32	0.00	0.00	0.00
4,600.00	6.00	0.25	4,584.11	308.36	1.34	-3.44	0.00	0.00	0.00
4,700.00	6.00	0.25	4,683.57	318.81	1.38	-3.55	0.00	0.00	0.00
4,800.00	6.00	0.25	4,783.02	329.27	1.43	-3.67	0.00	0.00	0.00
4,900.00	6.00	0.25	4,882.47	339.72	1.47	-3.79	0.00	0.00	0.00
5,000.00	6.00	0.25	4,981.92	350.17	1.52	-3.90	0.00	0.00	0.00
5,100.00	6.00	0.25	5,081.38	360.62	1.56	-4.02	0.00	0.00	0.00
5,200.00	6.00	0.25	5,180.83	371.08	1.61	-4.13	0.00	0.00	0.00
5,300.00	6.00	0.25	5,280.28	381.53	1.65	-4.25	0.00	0.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.00	6.00	0.25	5,379.73	391.98	1.70	-4.37	0.00	0.00	0.00
5,500.00	6.00	0.25	5,479.18	402.43	1.74	-4.48	0.00	0.00	0.00
5,600.00	6.00	0.25	5,578.64	412.89	1.79	-4.60	0.00	0.00	0.00
5,700.00	6.00	0.25	5,678.09	423.34	1.84	-4.72	0.00	0.00	0.00
5,800.00	6.00	0.25	5,777.54	433.79	1.88	-4.83	0.00	0.00	0.00
5,900.00	6.00	0.25	5,876.99	444.24	1.93	-4.95	0.00	0.00	0.00
6,000.00	6.00	0.25	5,976.45	454.69	1.97	-5.07	0.00	0.00	0.00
6,100.00	6.00	0.25	6,075.90	465.15	2.02	-5.18	0.00	0.00	0.00
6,200.00	6.00	0.25	6,175.35	475.60	2.06	-5.30	0.00	0.00	0.00
6,300.00	6.00	0.25	6,274.80	486.05	2.11	-5.42	0.00	0.00	0.00
6,400.00	6.00	0.25	6,374.25	496.50	2.15	-5.53	0.00	0.00	0.00
6,500.00	6.00	0.25	6,473.71	506.96	2.20	-5.65	0.00	0.00	0.00
6,600.00	6.00	0.25	6,573.16	517.41	2.24	-5.77	0.00	0.00	0.00
6,700.00	6.00	0.25	6,672.61	527.86	2.29	-5.88	0.00	0.00	0.00
6,800.00	6.00	0.25	6,772.06	538.31	2.33	-6.00	0.00	0.00	0.00
6,900.00	6.00	0.25	6,871.52	548.77	2.38	-6.11	0.00	0.00	0.00
7,000.00	6.00	0.25	6,970.97	559.22	2.42	-6.23	0.00	0.00	0.00
7,100.00	6.00	0.25	7,070.42	569.67	2.47	-6.35	0.00	0.00	0.00
7,200.00	6.00	0.25	7,169.87	580.12	2.52	-6.46	0.00	0.00	0.00
7,300.00	6.00	0.25	7,269.32	590.58	2.56	-6.58	0.00	0.00	0.00
7,331.41	6.00	0.25	7,300.56	593.86	2.58	-6.62	0.00	0.00	0.00
7,400.00	4.63	0.25	7,368.86	600.21	2.60	-6.69	2.00	-2.00	0.00
7,500.00	2.63	0.25	7,468.65	606.54	2.63	-6.76	2.00	-2.00	0.00
7,600.00	0.63	0.25	7,568.61	609.38	2.64	-6.79	2.00	-2.00	0.00
7,631.40	0.00	269.61	7,600.00	609.55	2.64	-6.79	2.00	-2.00	0.00
7,700.00	0.00	0.00	7,668.60	609.55	2.64	-6.79	0.00	0.00	0.00
7,800.00	0.00	0.00	7,768.60	609.55	2.64	-6.79	0.00	0.00	0.00
7,900.00	0.00	0.00	7,868.60	609.55	2.64	-6.79	0.00	0.00	0.00
8,000.00	0.00	0.00	7,968.60	609.55	2.64	-6.79	0.00	0.00	0.00
8,100.00	0.00	0.00	8,068.60	609.55	2.64	-6.79	0.00	0.00	0.00
8,200.00	0.00	0.00	8,168.60	609.55	2.64	-6.79	0.00	0.00	0.00
8,251.29	0.00	269.61	8,219.89	609.55	2.64	-6.79	0.00	0.00	0.00
8,300.00	4.87	269.61	8,268.55	609.54	0.57	-4.72	10.00	10.00	0.00
8,350.00	9.87	269.61	8,318.12	609.49	-5.84	1.69	10.00	10.00	0.00
8,400.00	14.87	269.61	8,366.94	609.42	-16.55	12.40	10.00	10.00	0.00
8,450.00	19.87	269.61	8,414.64	609.32	-31.47	27.32	10.00	10.00	0.00
8,500.00	24.87	269.61	8,460.87	609.19	-50.49	46.35	10.00	10.00	0.00
8,550.00	29.87	269.61	8,505.26	609.03	-73.47	69.33	10.00	10.00	0.00
8,600.00	34.87	269.61	8,547.47	608.84	-100.23	96.09	10.00	10.00	0.00
8,650.00	39.87	269.61	8,587.20	608.63	-130.57	126.43	10.00	10.00	0.00
8,700.00	44.87	269.61	8,624.12	608.40	-164.26	160.11	10.00	10.00	0.00
8,750.00	49.87	269.61	8,657.98	608.15	-201.03	196.89	10.00	10.00	0.00
8,800.00	54.87	269.61	8,688.49	607.88	-240.62	236.48	10.00	10.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,850.00	59.87	269.61	8,715.44	607.59	-282.71	278.57	10.00	10.00	0.00
8,900.00	64.87	269.61	8,738.62	607.28	-327.00	322.86	10.00	10.00	0.00
8,950.00	69.87	269.61	8,757.86	606.96	-373.13	368.99	10.00	10.00	0.00
9,000.00	74.87	269.61	8,772.99	606.64	-420.77	416.63	10.00	10.00	0.00
9,050.00	79.87	269.61	8,783.92	606.30	-469.54	465.40	10.00	10.00	0.00
9,100.00	84.87	269.61	8,790.56	605.96	-519.08	514.94	10.00	10.00	0.00
9,152.39	90.11	269.61	8,792.85	605.60	-571.40	567.26	10.00	10.00	0.00
9,200.00	90.11	269.61	8,792.76	605.27	-619.01	614.88	0.00	0.00	0.00
9,300.00	90.11	269.61	8,792.57	604.58	-719.01	714.88	0.00	0.00	0.00
9,400.00	90.11	269.61	8,792.37	603.90	-819.01	814.88	0.00	0.00	0.00
9,500.00	90.11	269.61	8,792.18	603.21	-919.00	914.88	0.00	0.00	0.00
9,600.00	90.11	269.61	8,791.99	602.52	-1,019.00	1,014.88	0.00	0.00	0.00
9,700.00	90.11	269.61	8,791.80	601.83	-1,119.00	1,114.88	0.00	0.00	0.00
9,800.00	90.11	269.61	8,791.61	601.14	-1,219.00	1,214.88	0.00	0.00	0.00
9,900.00	90.11	269.61	8,791.41	600.45	-1,318.99	1,314.87	0.00	0.00	0.00
10,000.00	90.11	269.61	8,791.22	599.77	-1,418.99	1,414.87	0.00	0.00	0.00
10,100.00	90.11	269.61	8,791.03	599.08	-1,518.99	1,514.87	0.00	0.00	0.00
10,200.00	90.11	269.61	8,790.84	598.39	-1,618.98	1,614.87	0.00	0.00	0.00
10,300.00	90.11	269.61	8,790.65	597.70	-1,718.98	1,714.87	0.00	0.00	0.00
10,400.00	90.11	269.61	8,790.45	597.01	-1,818.98	1,814.87	0.00	0.00	0.00
10,500.00	90.11	269.61	8,790.26	596.32	-1,918.98	1,914.87	0.00	0.00	0.00
10,600.00	90.11	269.61	8,790.07	595.64	-2,018.97	2,014.87	0.00	0.00	0.00
10,700.00	90.11	269.61	8,789.88	594.95	-2,118.97	2,114.87	0.00	0.00	0.00
10,800.00	90.11	269.61	8,789.69	594.26	-2,218.97	2,214.87	0.00	0.00	0.00
10,900.00	90.11	269.61	8,789.50	593.57	-2,318.97	2,314.87	0.00	0.00	0.00
11,000.00	90.11	269.61	8,789.30	592.88	-2,418.96	2,414.87	0.00	0.00	0.00
11,100.00	90.11	269.61	8,789.11	592.19	-2,518.96	2,514.87	0.00	0.00	0.00
11,200.00	90.11	269.61	8,788.92	591.51	-2,618.96	2,614.87	0.00	0.00	0.00
11,300.00	90.11	269.61	8,788.73	590.82	-2,718.96	2,714.87	0.00	0.00	0.00
11,400.00	90.11	269.61	8,788.54	590.13	-2,818.95	2,814.87	0.00	0.00	0.00
11,500.00	90.11	269.61	8,788.34	589.44	-2,918.95	2,914.87	0.00	0.00	0.00
11,600.00	90.11	269.61	8,788.15	588.75	-3,018.95	3,014.87	0.00	0.00	0.00
11,700.00	90.11	269.61	8,787.96	588.06	-3,118.95	3,114.87	0.00	0.00	0.00
11,800.00	90.11	269.61	8,787.77	587.38	-3,218.94	3,214.87	0.00	0.00	0.00
11,900.00	90.11	269.61	8,787.58	586.69	-3,318.94	3,314.87	0.00	0.00	0.00
12,000.00	90.11	269.61	8,787.38	586.00	-3,418.94	3,414.87	0.00	0.00	0.00
12,100.00	90.11	269.61	8,787.19	585.31	-3,518.94	3,514.87	0.00	0.00	0.00
12,200.00	90.11	269.61	8,787.00	584.62	-3,618.93	3,614.87	0.00	0.00	0.00
12,300.00	90.11	269.61	8,786.81	583.93	-3,718.93	3,714.87	0.00	0.00	0.00
12,400.00	90.11	269.61	8,786.62	583.25	-3,818.93	3,814.87	0.00	0.00	0.00
12,500.00	90.11	269.61	8,786.42	582.56	-3,918.93	3,914.87	0.00	0.00	0.00
12,600.00	90.11	269.61	8,786.23	581.87	-4,018.92	4,014.87	0.00	0.00	0.00
12,700.00	90.11	269.61	8,786.04	581.18	-4,118.92	4,114.87	0.00	0.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,800.00	90.11	269.61	8,785.85	580.49	-4,218.92	4,214.87	0.00	0.00	0.00
12,900.00	90.11	269.61	8,785.66	579.80	-4,318.92	4,314.87	0.00	0.00	0.00
13,000.00	90.11	269.61	8,785.46	579.12	-4,418.91	4,414.87	0.00	0.00	0.00
13,100.00	90.11	269.61	8,785.27	578.43	-4,518.91	4,514.87	0.00	0.00	0.00
13,200.00	90.11	269.61	8,785.08	577.74	-4,618.91	4,614.87	0.00	0.00	0.00
13,300.00	90.11	269.61	8,784.89	577.05	-4,718.91	4,714.87	0.00	0.00	0.00
13,400.00	90.11	269.61	8,784.70	576.36	-4,818.90	4,814.87	0.00	0.00	0.00
13,500.00	90.11	269.61	8,784.50	575.67	-4,918.90	4,914.87	0.00	0.00	0.00
13,600.00	90.11	269.61	8,784.31	574.99	-5,018.90	5,014.87	0.00	0.00	0.00
13,700.00	90.11	269.61	8,784.12	574.30	-5,118.90	5,114.87	0.00	0.00	0.00
13,800.00	90.11	269.61	8,783.93	573.61	-5,218.89	5,214.87	0.00	0.00	0.00
13,900.00	90.11	269.61	8,783.74	572.92	-5,318.89	5,314.87	0.00	0.00	0.00
14,000.00	90.11	269.61	8,783.54	572.23	-5,418.89	5,414.87	0.00	0.00	0.00
14,100.00	90.11	269.61	8,783.35	571.54	-5,518.89	5,514.87	0.00	0.00	0.00
14,200.00	90.11	269.61	8,783.16	570.86	-5,618.88	5,614.87	0.00	0.00	0.00
14,300.00	90.11	269.61	8,782.97	570.17	-5,718.88	5,714.87	0.00	0.00	0.00
14,400.00	90.11	269.61	8,782.78	569.48	-5,818.88	5,814.87	0.00	0.00	0.00
14,500.00	90.11	269.61	8,782.58	568.79	-5,918.88	5,914.87	0.00	0.00	0.00
14,600.00	90.11	269.61	8,782.39	568.10	-6,018.87	6,014.87	0.00	0.00	0.00
14,700.00	90.11	269.61	8,782.20	567.42	-6,118.87	6,114.87	0.00	0.00	0.00
14,800.00	90.11	269.61	8,782.01	566.73	-6,218.87	6,214.87	0.00	0.00	0.00
14,900.00	90.11	269.61	8,781.82	566.04	-6,318.87	6,314.87	0.00	0.00	0.00
15,000.00	90.11	269.61	8,781.62	565.35	-6,418.86	6,414.87	0.00	0.00	0.00
15,100.00	90.11	269.61	8,781.43	564.66	-6,518.86	6,514.87	0.00	0.00	0.00
15,200.00	90.11	269.61	8,781.24	563.97	-6,618.86	6,614.87	0.00	0.00	0.00
15,300.00	90.11	269.61	8,781.05	563.29	-6,718.85	6,714.87	0.00	0.00	0.00
15,400.00	90.11	269.61	8,780.86	562.60	-6,818.85	6,814.86	0.00	0.00	0.00
15,500.00	90.11	269.61	8,780.66	561.91	-6,918.85	6,914.86	0.00	0.00	0.00
15,600.00	90.11	269.61	8,780.47	561.22	-7,018.85	7,014.86	0.00	0.00	0.00
15,700.00	90.11	269.61	8,780.28	560.53	-7,118.84	7,114.86	0.00	0.00	0.00
15,800.00	90.11	269.61	8,780.09	559.84	-7,218.84	7,214.86	0.00	0.00	0.00
15,900.00	90.11	269.61	8,779.90	559.16	-7,318.84	7,314.86	0.00	0.00	0.00
16,000.00	90.11	269.61	8,779.70	558.47	-7,418.84	7,414.86	0.00	0.00	0.00
16,100.00	90.11	269.61	8,779.51	557.78	-7,518.83	7,514.86	0.00	0.00	0.00
16,200.00	90.11	269.61	8,779.32	557.09	-7,618.83	7,614.86	0.00	0.00	0.00
16,283.21	90.11	269.61	8,779.16	556.52	-7,702.04	7,698.07	0.00	0.00	0.00
16,300.00	90.45	269.61	8,779.08	556.40	-7,718.83	7,714.86	2.00	2.00	0.01
16,354.21	91.53	269.61	8,778.14	556.03	-7,773.03	7,769.06	2.00	2.00	0.01
16,400.00	91.53	269.61	8,776.92	555.72	-7,818.80	7,814.84	0.00	0.00	0.00
16,500.00	91.53	269.61	8,774.25	555.04	-7,918.76	7,914.80	0.00	0.00	0.00
16,600.00	91.53	269.61	8,771.58	554.36	-8,018.73	8,014.77	0.00	0.00	0.00
16,700.00	91.53	269.61	8,768.91	553.68	-8,118.69	8,114.73	0.00	0.00	0.00
16,800.00	91.53	269.61	8,766.24	553.00	-8,218.65	8,214.70	0.00	0.00	0.00
16,900.00	91.53	269.61	8,763.57	552.32	-8,318.61	8,314.66	0.00	0.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
17,000.00	91.53	269.61	8,760.90	551.64	-8,418.57	8,414.62	0.00	0.00	0.00
17,100.00	91.53	269.61	8,758.23	550.96	-8,518.54	8,514.59	0.00	0.00	0.00
17,200.00	91.53	269.61	8,755.56	550.28	-8,618.50	8,614.55	0.00	0.00	0.00
17,300.00	91.53	269.61	8,752.89	549.60	-8,718.46	8,714.52	0.00	0.00	0.00
17,400.00	91.53	269.61	8,750.22	548.92	-8,818.42	8,814.48	0.00	0.00	0.00
17,500.00	91.53	269.61	8,747.55	548.24	-8,918.38	8,914.45	0.00	0.00	0.00
17,600.00	91.53	269.61	8,744.88	547.55	-9,018.35	9,014.41	0.00	0.00	0.00
17,700.00	91.53	269.61	8,742.21	546.87	-9,118.31	9,114.37	0.00	0.00	0.00
17,800.00	91.53	269.61	8,739.54	546.19	-9,218.27	9,214.34	0.00	0.00	0.00
17,900.00	91.53	269.61	8,736.87	545.51	-9,318.23	9,314.30	0.00	0.00	0.00
18,000.00	91.53	269.61	8,734.20	544.83	-9,418.19	9,414.27	0.00	0.00	0.00
18,100.00	91.53	269.61	8,731.53	544.15	-9,518.16	9,514.23	0.00	0.00	0.00
18,200.00	91.53	269.61	8,728.86	543.47	-9,618.12	9,614.20	0.00	0.00	0.00
18,300.00	91.53	269.61	8,726.19	542.79	-9,718.08	9,714.16	0.00	0.00	0.00
18,400.00	91.53	269.61	8,723.52	542.11	-9,818.04	9,814.12	0.00	0.00	0.00
18,500.00	91.53	269.61	8,720.85	541.43	-9,918.00	9,914.09	0.00	0.00	0.00
18,600.00	91.53	269.61	8,718.18	540.75	-10,017.97	10,014.05	0.00	0.00	0.00
18,700.00	91.53	269.61	8,715.51	540.07	-10,117.93	10,114.02	0.00	0.00	0.00
18,800.00	91.53	269.61	8,712.84	539.39	-10,217.89	10,213.98	0.00	0.00	0.00
18,900.00	91.53	269.61	8,710.17	538.71	-10,317.85	10,313.95	0.00	0.00	0.00
19,000.00	91.53	269.61	8,707.50	538.03	-10,417.81	10,413.91	0.00	0.00	0.00
19,100.00	91.53	269.61	8,704.83	537.35	-10,517.78	10,513.88	0.00	0.00	0.00
19,200.00	91.53	269.61	8,702.16	536.67	-10,617.74	10,613.84	0.00	0.00	0.00
19,238.34	91.53	269.61	8,701.14	536.41	-10,656.07	10,652.17	0.00	0.00	0.00
19,300.00	91.53	269.61	8,699.49	535.99	-10,717.70	10,713.80	0.00	0.00	0.00
19,400.00	91.53	269.61	8,696.82	535.31	-10,817.66	10,813.77	0.00	0.00	0.00
19,468.57	91.53	269.61	8,694.99	534.84	-10,886.20	10,882.31	0.00	0.00	0.00

SANTO PETROLEUM

Survey Report

WELLBENDERS DIRECTIONAL SERVICES

Company:	Santo Petroleum	**Local Co-ordinate Reference:**	Well #402H
Project:	Eddy County, NM (NAD 83 - NME)	**TVD Reference:**	Est RKB = 25' @ 3124.00usft
Site:	Caveman Unit	**MD Reference:**	Est RKB = 25' @ 3124.00usft
Well:	#402H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	PERMIT	**Database:**	WBDS_SQL_2

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Caveman SHL: 2271' - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	512,385.60	576,482.00	32.408564	-104.219452
Caveman PBHL: 165(- plan misses target center by 0.24usft at 19468.57usft MD (8694.99 TVD, 534.84 N, -10886.20 E) - Point	0.00	0.00	8,694.99	534.60	-10,886.20	512,920.20	565,595.80	32.410061	-104.254726
Caveman LTP: 1650' - plan misses target center by 9.61usft at 19238.34usft MD (8701.14 TVD, 536.41 N, -10656.07 E) - Point	0.00	0.00	8,701.14	526.80	-10,656.00	512,912.40	565,826.00	32.410039	-104.253980
Caveman FTP: 1650' - plan hits target center - Point	0.00	0.00	8,792.85	605.60	-571.40	512,991.20	575,910.60	32.410230	-104.221302

Checked By: _____ Approved By: _____ Date: _____

SANTO OPERATING LLC
GEOLOGIC WELL PROPOSAL

PROJECT AND PROSPECT

Project Name:	Caveman	Operator:	Santo Operating LLC
Prospect Name:	Caveman	Geologist:	John Weihe
Lease Name:	Caveman 7-12 WCXY	Well Number:	002H
Type of Operation:	New Drill	Prognosis Date:	10/11/2019
Well Profile:	Horizontal	Well Type:	Development
Field Name(s):	Purple Sage Wolfcamp Gas Pool	API:	

WELL DESCRIPTION

Wolfcamp A-XY; Y Sand Horizontal Development Well

PROPOSED BOTTOM HOLE LOCATION

Cnty/Parish:	Eddy	Latitude:	N 32.408564	X Coord:	565,595.8
State:	NM	Longitude:	W 104.219452	Y Coord:	512,920.2
Description (include section line & distance & direction from nearest city):				Datum:	NAD 83

South end City of Carlsbad, NM 1650' FNL 100' FWL Section 12 22S 26E

PROPOSED SURFACE HOLE LOCATION (IF DIFFERENT FROM BHL) (NOTE: INPUT FROM LAND DEPARTMENT REQUIRED)

SHL (Same as BHL, Different from BHL, or TBD):					
Cnty/Parish:	Eddy	Latitude:	N 32.408564	X Coord:	576,482.0
State:	NM	Longitude:	W 104.219452	Y Coord:	512,385.6
Elevation:	3,099				
Description (include section line & distance & direction from nearest city):				Datum:	NAD 83

South end City of Carlsbad, NM 2271' FNL 240' FWL Section 8 22S 27E (or as deemed by L. Anders)

ANTICIPATED GEOLOGIC MARKERS

#	Marker*	MD (ft)	TVD (ft)	Subsea (ft)	Comments
1	Option 1: Kelly Bushing	3,124			assume 25' KB from GL
2	Ground Level Elevation	3,099			
3				**3,124**	
4	Top Salt (John)	456	456	**2,668**	
5	Base Salt (John)	1150	1,150	**1,974**	
6	Delaware	1651	1,651	**1,473**	
	Lamar Limestone	1700	1,700	**1,424**	
	Base Lamar Limestone	1963	1,963	**1,161**	
11	BONE SPRING	5146	5,146	**-2,022**	
18	Top 1st BSPG Sand (John)	6298	6,298	**-3,174**	
20	Top 2nd Bone Spring Carbonate (John)	6564	6,564	**-3,440**	
21	Top 2nd Bone Spring Sand (John)	6937	6,937	**-3,813**	
22	Top 3rd Bone Spring Carbonate (John)	7207	7,207	**-4,083**	
24	Top 3rd Bone Spring Sand (John)	8339	8,339	**-5,215**	
29	WOLFCAMP A (John)	per directional plan	8,694	**-5,570**	
30	**Y Sand Top (John)**	per directional plan	8,779	**-5,655**	
31	**TOP WINDOW**	per directional plan	8,782	**-5,658**	
32	**TARGET**	per directional plan	8,794	**-5,670**	
33	**BASE WINDOW**	per directional plan	8,806	**-5,682**	
34					
35					
36	Proposed TD [feet]:				

***All listed geologic markers are formation tops unless otherwise noted.**

DRILLING TARGET(S) (Top to Bottom)

1	Section Distance 7680' West:	TARGET	Target Lat:	per dir. Plan	Target X:	per dir. Plan
	TVD:	8,779	Target Lon:	per dir. Plan	Target Y:	per dir. Plan
	Target Window:	+/- 12' TVD				
2	TD Target:	TARGET	Target Lat:	per dir. Plan	Target X:	per dir. Plan
	TVD:	8,694	Target Lon:	per dir. Plan	Target Y:	per dir. Plan
	Target Window:	+/- 12' TVD				

Comments:

NEARBY WELLS OF INTEREST

	API Number	Well Name	Comments
1			
2			
3			
4			
5			
6			
7			
8			

SANTO OPERATING LLC
GEOLOGIC WELL PROPOSAL

PROJECT AND PROSPECT			
Project Name:	Caveman	Operator:	Santo Operating LLC
Prospect Name:	Caveman	Geologist:	John Weihe
Lease Name:	Caveman 7-12 WCXY	Well Number:	002H
Type of Operation:	New Drill	Prognosis Date:	10/11/2019
Well Profile:	Horizontal	Well Type:	Development
Field Name(s):	Purple Sage Wolfcamp Gas Pool	API:	

9			
10			
11			
12			

ELECTRIC LOGGING

	Interval		Logging Tool(s)
	Top (ft)	Bottom (ft)	
1	Surface Casing	Intermetiate Casing	Triple Combo or equivalent w/ sonic
2			Triple combo to include: gamma ray spectroscopy
3	Intermediate Casing	TD	LWD gamma ray in build and lateral for geosteering
4			Important to get good LWD Gamma Ray in vertical portion below intermediate
5			to correlate top 3rd Bone Spring Sand
6			
7			
8			

Comments:

OTHER EVALUATION (Mud Logging, DST, Whole Cores, Etc.)

	Interval		Description
	Top (ft)	Bottom (ft)	
1	Intermediate Csg	TD	Mud Logging
2			
3			
4			
5			

Comments:

ANTICIPATED PORE PRESSURES

	Interval		Gradient (psi/ft)	Comments
	Top (ft)	Bottom (ft)		
1	surface	Top Bone Spring	0.430	
2	Top Bone Spring	Bone Spring 1 Sand	0.459	
3	Bone Spring 1 Sand	Bone Spring 2 Sand	0.445	
	Bone Spring 2 Sand	Bone Spring 3 Sand	0.490	
	Bone Spring 3 Sand	WCXY	0.502	
4	Lateral	Lateral	0.512	
5				

Comments:

KNOWN ISSUES THAT COULD BE DRILLING OR SAFETY CONCERNS

	Interval		Description
	Top (ft)	Bottom (ft)	
1			
2			
3			
4			
5			

Comments: Osprey 10 601H, 602H producing 1/2 miles to north west. Fairview 14 produced 25,646 bo from 1995 to present 1 mile due east.

OCD Exhibit 2

Submit Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO.

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☐ Other

7. Lease Name or Unit Agreement Name
Caveman 7-12 WCXY

8. Well Number 2H

2. Name of Operator SPC Resources, LLC

9. OGRID Number 372262

3. Address of Operator P.O. Box 1020, Artesia, NM 88211

10. Pool name or Wildcat
Purple Sage; Wolfcamp (Gas)

4. Well Location
Unit Letter____E___ ___:_2271____feet from the _____N __ line and ___240____feet from the ___ W____line
Section 8 Township 22S Range 27E NMPM Eddy County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3099

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: Change Well Name and surface location ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

The purpose of this C-103A is change the well name from Caveman 7-12 WCXY 2H to Caveman 402H.
Also, we would like to change the surface location from 2271 FNL, 240 FWL, Unit E, Section 8, 22S, 27E, Elevation 3099'
To 2420 FNL, 188 FEL, Unit H, Section 7, 22S, 27E, Elevation 3102'.
I have attached a new C-102, and revised Directional Drilling Plan.

Spud Date: | Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE_____ TITLE__VP, Operations_____DATE_____

Type or print name ___Lelan J Anders_____ E-mail address: __LAnders@SantoPetroleum.com___ PHONE: _713-600-7502_____

For State Use Only

APPROVED BY: John Garcia TITLE Petroleum Specialist DATE 3/12/2021

Conditions of Approval (if any):

New Property ID is 330286

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised August 4, 2011

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	98220	PURPLE SAGE WOLFCAMP GAS POOL

Property Code	Property Name	Well Number
	CAVEMAN	402H
OGRID No.	**Operator Name**	**Elevation**
	SPC RESOURCES, LLC	3102'

Surface Location

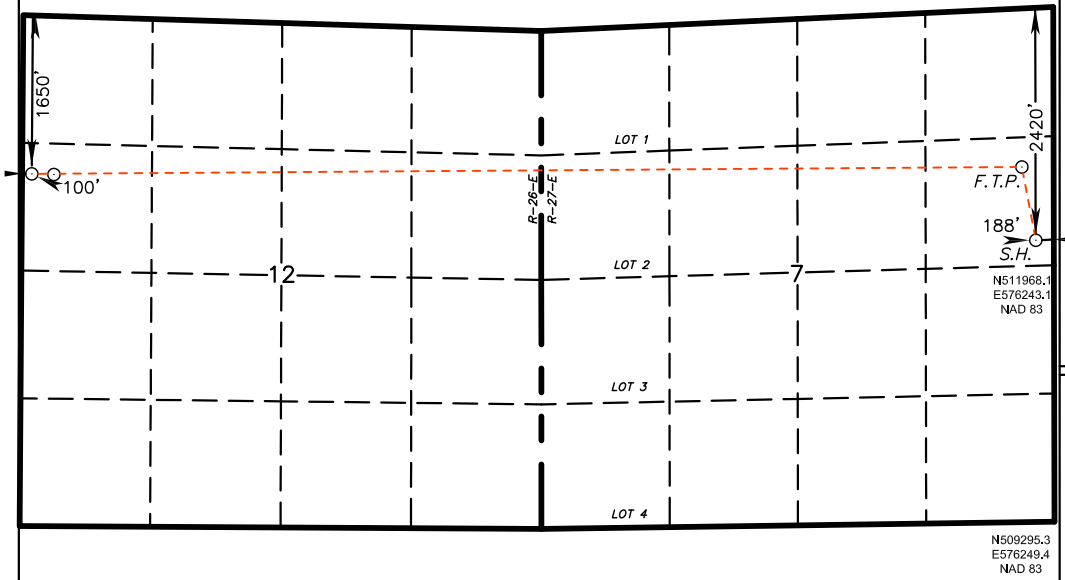
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
H	7	22 S	27 E		2420	NORTH	188	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	SOUTH/South line	Feet from the	East/West line	County
E	12	22 S	26 E		1650	NORTH	100	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1267.10			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



BOTTOM HOLE LOCATION
Lat – N 32.410061
Long – W 104.254726
NMSPCE– N 512920.2
E 565595.8
(NAD-83)

LAST TAKE POINT
1650 FNL & 330 FWL
Lat – N 32.410039
Long – W 104.253981
NMSPCE– N 512912.4
E 565826.0
(NAD-83)

FIRST TAKE POINT
1650 FNL & 330 FEL
Lat – N 32.410231
Long – W 104.221300
NMSPCE– N 512991.2
E 575910.6
(NAD-83)

SURFACE LOCATION
Lat – N 32.408132
Long – W 104.220836
NMSPCE– N 512227.9
E 576054.9
(NAD-83)

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unLEAsed mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Printed Name

Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

FEBRUARY 30, 2021
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

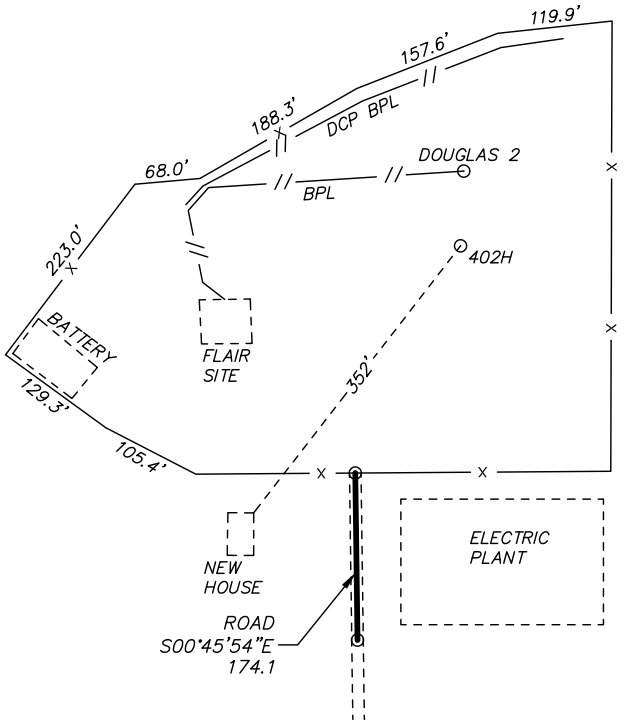
Certificate No. Gary L. Jones 7977
BASIN SURVEYS

0' 1000' 2000' 3000' 4000'
SCALE: 1" = 2000'
WO Num.: 34729

SECTION 7, TOWNSHIP 22 SOUTH, RANGE 27 EAST. N.M.P.M.,

LEA COUNTY, NEW MEXICO.

SPC RESOURCES, LLC
CAVEMAN 402H
ELEV. – 3102'
Lat – N 32.408132
Long – W 104.220836
NMSPCE– N 512227.9
E 576054.9
(NAD–83)



CARLSBAD, NM IS ±1 MILES TO THE NORTHWEST OF LOCATION.

200 0 200 400 FEET

SCALE: 1" = 200'

SPC RESOURCES, LLC

REF: CAVEMAN 402H / WELL PAD TOPO

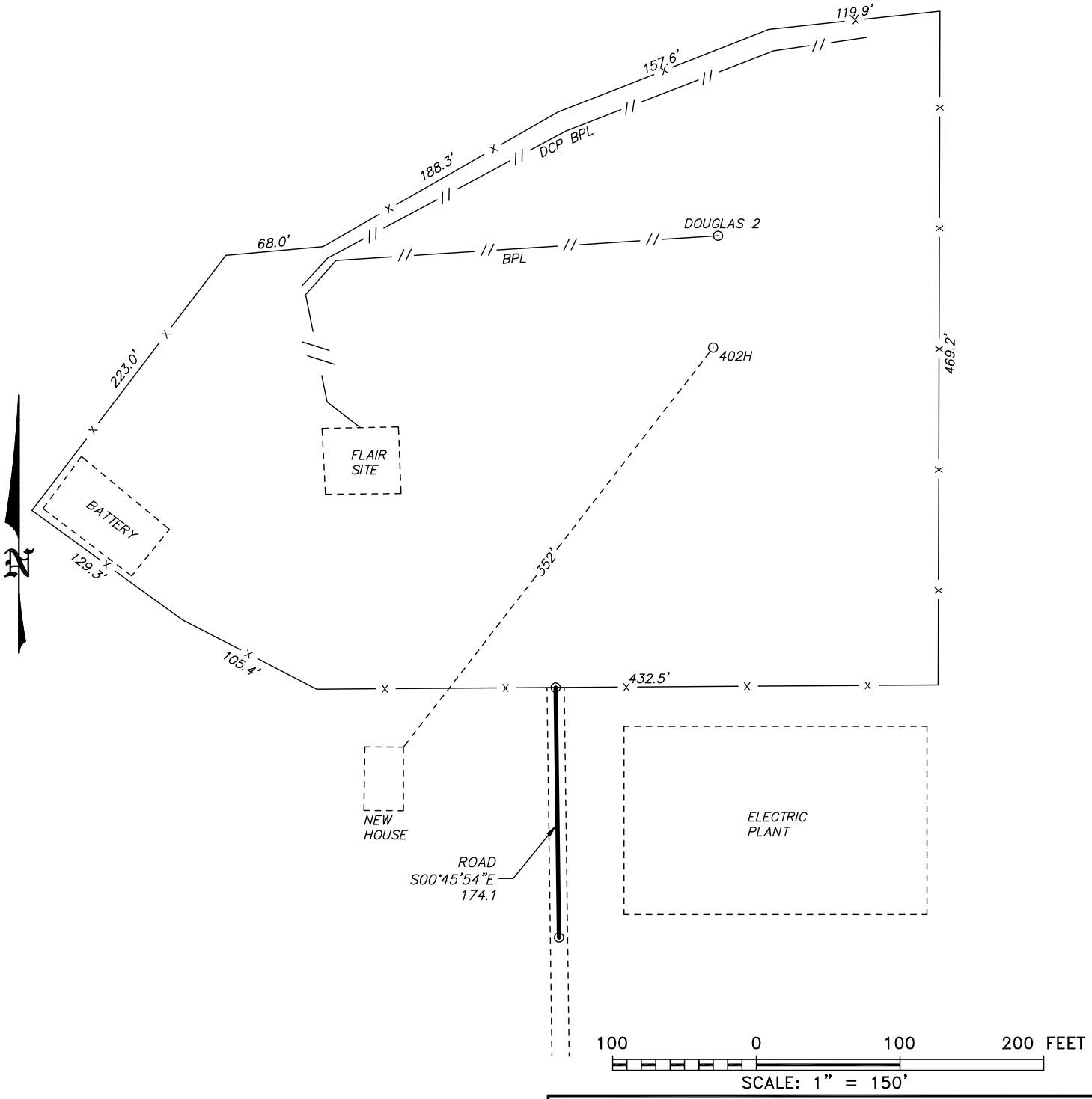
THE CAVEMAN 402H LOCATED 2420' FROM THE NORTH LINE AND 188' FROM THE EAST LINE OF SECTION 7, TOWNSHIP 22 SOUTH, RANGE 27 EAST. N.M.P.M., EDDY COUNTY, NEW MEXICO.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393–7316 – Office
(575) 392–2206 – Fax
basinsurveys.com

W.O. Number: 35040	Drawn By: J GOAD	Date: 2–21–2020	Survey Date: 2–13–2020	Sheet 1 of 1 Sheets

SECTION 7, TOWNSHIP 22 SOUTH, RANGE 27 EAST. N.M.P.M.,

LEA COUNTY, **NEW MEXICO.**



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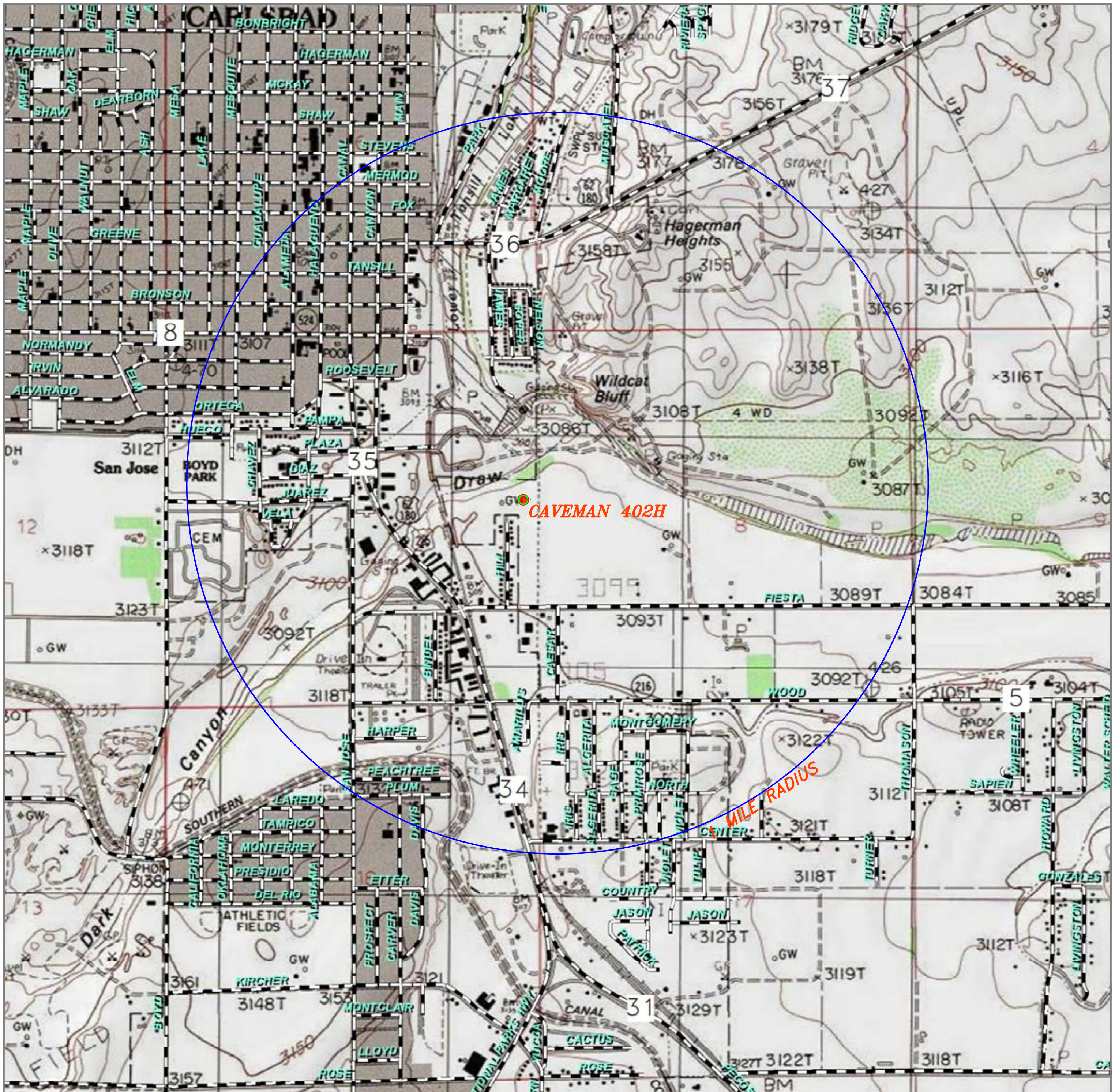

CAVEMAN 402H

Located 2420' FNL and 188' FEL
Section 7, Township 22 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
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basinsurveys.com

0' 1000' 2000' 3000' 150'0'
SCALE: 1" = 2000'

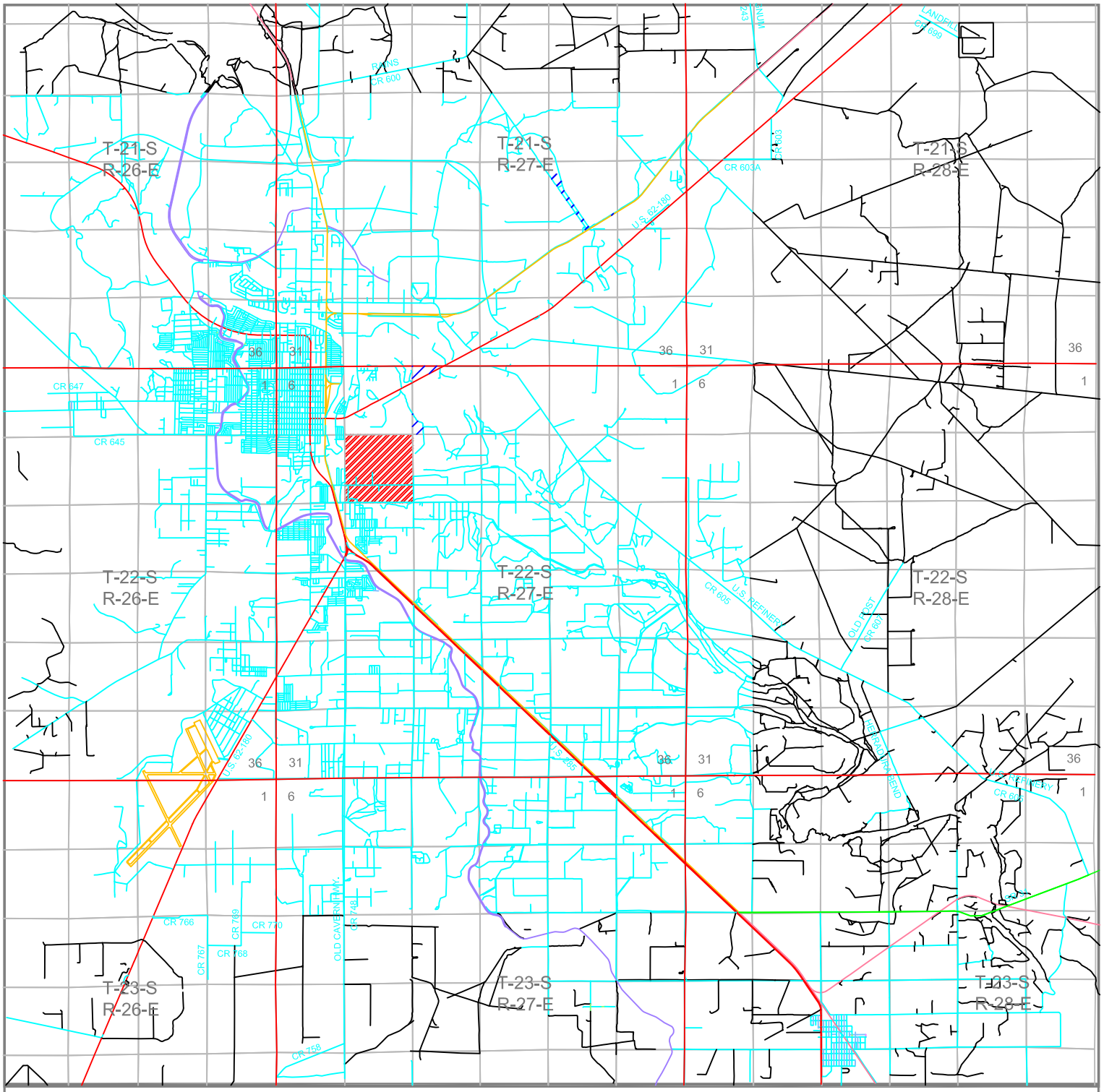
W.O. Number: JG 34729

Survey Date: 7-31-2019

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

SPC RESOURCES, LLC



CAVEMAN 402H

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Section 7, Township 22 South, Range 27 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
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0 1 MI 2 MI 3 MI 4 MI
SCALE: 1" = 2 MILES

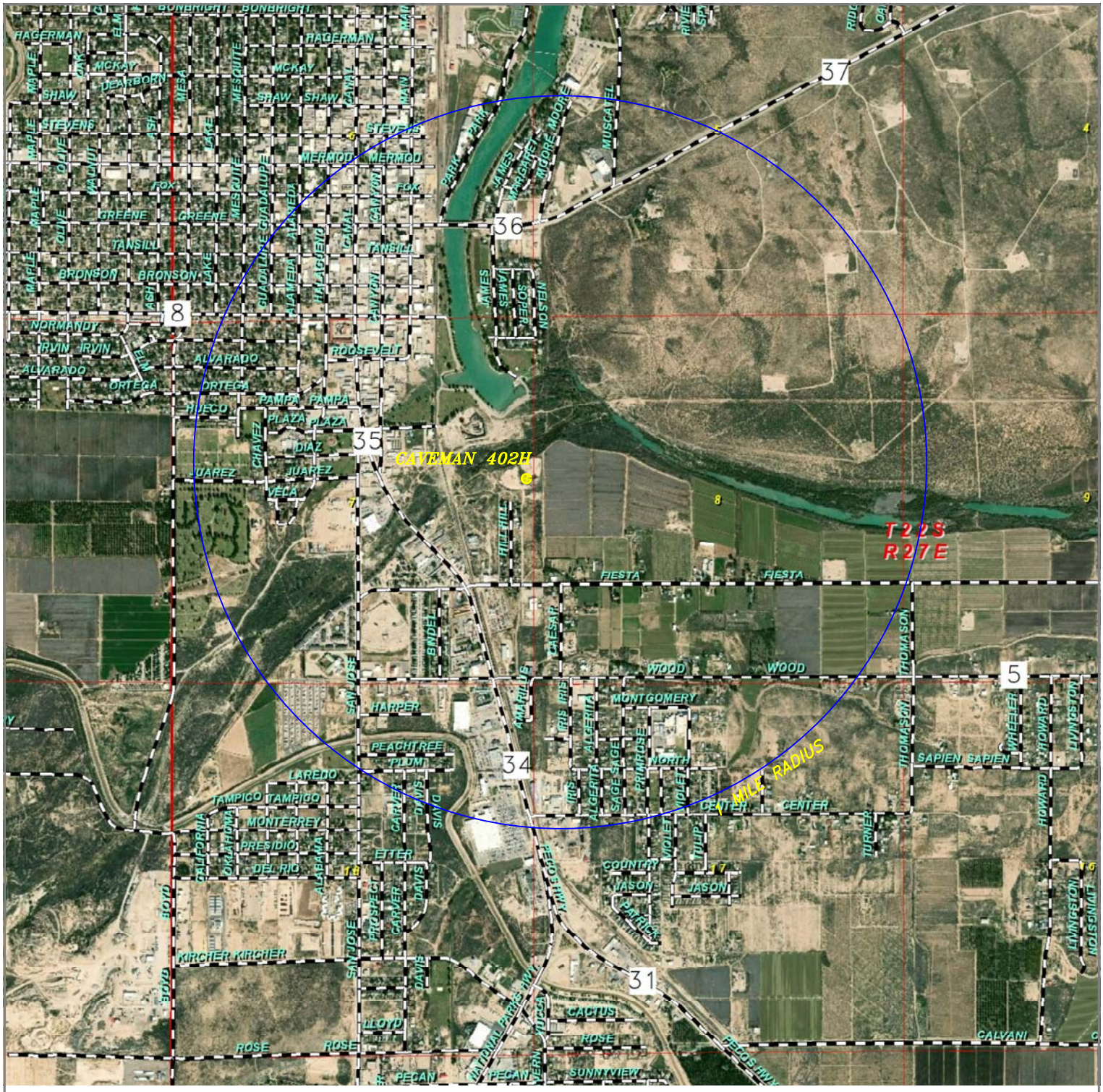
W.O. Number: JG 34729

Survey Date: 7-31-2019

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

SPC RESOURCES, LLC



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0' 1000' 2000' 3000' 150'0'
SCALE: 1" = 2000'

W.O. Number: JG 34729

Survey Date: 7-31-2019

YELLOW TINT – USA LAND
BLUE TINT – STATE LAND
NATURAL COLOR – FEE LAND

N

SPC RESOURCES, LLC

Santo Petroleum

Eddy County, NM (NAD 83 - NME)
Caveman 7-12
#402H

ST01

Plan: ST01: Plan #4

Standard Planning Report

08 March, 2021

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Project Eddy County, NM (NAD 83 - NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Caveman 7-12

Site Position:		**Northing:**	512,385.60 usft	**Latitude:**	32.408564
From:	Map	**Easting:**	576,482.00 usft	**Longitude:**	-104.219452
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.061 °

Well #402H

Well Position	**+N/-S**	-157.62 usft	**Northing:**	512,227.98 usft	**Latitude:**	32.408132
	+E/-W	-427.02 usft	**Easting:**	576,054.99 usft	**Longitude:**	-104.220836
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,102.00 usft

Wellbore ST01

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	3/10/2021	6.890	59.979	47,564.95128308

Design ST01: Plan #4

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	8,272.68

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.61

Plan Survey Tool Program **Date** 3/8/2021

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	8,272.68	19,220.06	ST01: Plan #4 (ST01)	MWD+IGRF OWSG MWD + IGRF or WM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
8,272.68	0.00	0.00	8,224.04	765.32	160.09	0.00	0.00	0.00	0.000	
9,173.85	90.12	269.61	8,797.00	761.37	-414.02	10.00	10.00	-10.03	269.606	
16,035.02	90.12	269.61	8,783.00	714.14	-7,275.02	0.00	0.00	0.00	0.000	Caveman #402H D
16,093.59	91.29	269.61	8,782.28	713.74	-7,333.58	2.00	2.00	0.00	-0.002	
19,220.06	91.29	269.61	8,712.00	692.22	-10,459.18	0.00	0.00	0.00	0.000	PLAT PBHL: 1650'

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PLAT #402H SHL: 2420' FNL & 188' FEL									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	2.00	11.81	1,599.98	1.71	0.36	-0.37	2.00	2.00	0.00
1,700.00	4.00	11.81	1,699.84	6.83	1.43	-1.48	2.00	2.00	0.00
1,800.00	6.00	11.81	1,799.45	15.36	3.21	-3.32	2.00	2.00	0.00
1,863.06	7.26	11.81	1,862.09	22.49	4.70	-4.86	2.00	2.00	0.00
1,900.00	7.26	11.81	1,898.73	27.06	5.66	-5.84	0.00	0.00	0.00
2,000.00	7.26	11.81	1,997.93	39.43	8.25	-8.52	0.00	0.00	0.00
2,100.00	7.26	11.81	2,097.13	51.80	10.84	-11.19	0.00	0.00	0.00
2,200.00	7.26	11.81	2,196.33	64.17	13.42	-13.86	0.00	0.00	0.00
2,300.00	7.26	11.81	2,295.52	76.55	16.01	-16.53	0.00	0.00	0.00
2,400.00	7.26	11.81	2,394.72	88.92	18.60	-19.20	0.00	0.00	0.00
2,500.00	7.26	11.81	2,493.92	101.29	21.19	-21.88	0.00	0.00	0.00
2,600.00	7.26	11.81	2,593.12	113.66	23.78	-24.55	0.00	0.00	0.00
2,700.00	7.26	11.81	2,692.32	126.03	26.36	-27.22	0.00	0.00	0.00
2,800.00	7.26	11.81	2,791.51	138.40	28.95	-29.89	0.00	0.00	0.00
2,900.00	7.26	11.81	2,890.71	150.78	31.54	-32.56	0.00	0.00	0.00
3,000.00	7.26	11.81	2,989.91	163.15	34.13	-35.24	0.00	0.00	0.00
3,100.00	7.26	11.81	3,089.11	175.52	36.72	-37.91	0.00	0.00	0.00
3,200.00	7.26	11.81	3,188.31	187.89	39.30	-40.58	0.00	0.00	0.00
3,300.00	7.26	11.81	3,287.50	200.26	41.89	-43.25	0.00	0.00	0.00
3,400.00	7.26	11.81	3,386.70	212.63	44.48	-45.93	0.00	0.00	0.00
3,500.00	7.26	11.81	3,485.90	225.01	47.07	-48.60	0.00	0.00	0.00
3,600.00	7.26	11.81	3,585.10	237.38	49.65	-51.27	0.00	0.00	0.00
3,700.00	7.26	11.81	3,684.30	249.75	52.24	-53.94	0.00	0.00	0.00
3,800.00	7.26	11.81	3,783.49	262.12	54.83	-56.61	0.00	0.00	0.00
3,900.00	7.26	11.81	3,882.69	274.49	57.42	-59.29	0.00	0.00	0.00
4,000.00	7.26	11.81	3,981.89	286.86	60.01	-61.96	0.00	0.00	0.00
4,100.00	7.26	11.81	4,081.09	299.24	62.59	-64.63	0.00	0.00	0.00
4,200.00	7.26	11.81	4,180.29	311.61	65.18	-67.30	0.00	0.00	0.00
4,300.00	7.26	11.81	4,279.48	323.98	67.77	-69.97	0.00	0.00	0.00
4,400.00	7.26	11.81	4,378.68	336.35	70.36	-72.65	0.00	0.00	0.00
4,500.00	7.26	11.81	4,477.88	348.72	72.95	-75.32	0.00	0.00	0.00
4,600.00	7.26	11.81	4,577.08	361.09	75.53	-77.99	0.00	0.00	0.00
4,700.00	7.26	11.81	4,676.28	373.47	78.12	-80.66	0.00	0.00	0.00
4,800.00	7.26	11.81	4,775.47	385.84	80.71	-83.33	0.00	0.00	0.00
4,900.00	7.26	11.81	4,874.67	398.21	83.30	-86.01	0.00	0.00	0.00
5,000.00	7.26	11.81	4,973.87	410.58	85.89	-88.68	0.00	0.00	0.00
5,100.00	7.26	11.81	5,073.07	422.95	88.47	-91.35	0.00	0.00	0.00

SANTO PETROLEUM

Planning Report

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Wellbore:	ST01		
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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,200.00	7.26	11.81	5,172.27	435.32	91.06	-94.02	0.00	0.00	0.00
5,300.00	7.26	11.81	5,271.46	447.70	93.65	-96.69	0.00	0.00	0.00
5,400.00	7.26	11.81	5,370.66	460.07	96.24	-99.37	0.00	0.00	0.00
5,500.00	7.26	11.81	5,469.86	472.44	98.83	-102.04	0.00	0.00	0.00
5,600.00	7.26	11.81	5,569.06	484.81	101.41	-104.71	0.00	0.00	0.00
5,700.00	7.26	11.81	5,668.26	497.18	104.00	-107.38	0.00	0.00	0.00
5,800.00	7.26	11.81	5,767.45	509.55	106.59	-110.05	0.00	0.00	0.00
5,900.00	7.26	11.81	5,866.65	521.93	109.18	-112.73	0.00	0.00	0.00
6,000.00	7.26	11.81	5,965.85	534.30	111.76	-115.40	0.00	0.00	0.00
6,100.00	7.26	11.81	6,065.05	546.67	114.35	-118.07	0.00	0.00	0.00
6,200.00	7.26	11.81	6,164.25	559.04	116.94	-120.74	0.00	0.00	0.00
6,300.00	7.26	11.81	6,263.45	571.41	119.53	-123.42	0.00	0.00	0.00
6,400.00	7.26	11.81	6,362.64	583.78	122.12	-126.09	0.00	0.00	0.00
6,500.00	7.26	11.81	6,461.84	596.16	124.70	-128.76	0.00	0.00	0.00
6,600.00	7.26	11.81	6,561.04	608.53	127.29	-131.43	0.00	0.00	0.00
6,700.00	7.26	11.81	6,660.24	620.90	129.88	-134.10	0.00	0.00	0.00
6,800.00	7.26	11.81	6,759.44	633.27	132.47	-136.78	0.00	0.00	0.00
6,900.00	7.26	11.81	6,858.63	645.64	135.06	-139.45	0.00	0.00	0.00
7,000.00	7.26	11.81	6,957.83	658.01	137.64	-142.12	0.00	0.00	0.00
7,100.00	7.26	11.81	7,057.03	670.39	140.23	-144.79	0.00	0.00	0.00
7,200.00	7.26	11.81	7,156.23	682.76	142.82	-147.46	0.00	0.00	0.00
7,300.00	7.26	11.81	7,255.43	695.13	145.41	-150.14	0.00	0.00	0.00
7,400.00	7.26	11.81	7,354.62	707.50	148.00	-152.81	0.00	0.00	0.00
7,500.00	7.26	11.81	7,453.82	719.87	150.58	-155.48	0.00	0.00	0.00
7,600.00	7.26	11.81	7,553.02	732.24	153.17	-158.15	0.00	0.00	0.00
7,685.57	7.26	11.81	7,637.91	742.83	155.39	-160.44	0.00	0.00	0.00
7,700.00	6.97	11.81	7,652.22	744.58	155.75	-160.82	2.00	-2.00	0.00
7,800.00	4.97	11.81	7,751.67	754.77	157.88	-163.02	2.00	-2.00	0.00
7,900.00	2.97	11.81	7,851.43	761.55	159.30	-164.48	2.00	-2.00	0.00
8,000.00	0.97	11.81	7,951.36	764.92	160.01	-165.21	2.00	-2.00	0.00
8,048.64	0.00	0.00	8,000.00	765.32	160.09	-165.30	2.00	-2.00	0.00
8,100.00	0.00	0.00	8,051.36	765.32	160.09	-165.30	0.00	0.00	0.00
8,200.00	0.00	0.00	8,151.36	765.32	160.09	-165.30	0.00	0.00	0.00
8,272.68	0.00	0.00	8,224.04	765.32	160.09	-165.30	0.00	0.00	0.00
8,300.00	2.73	269.61	8,251.35	765.32	159.44	-164.64	10.00	10.00	0.00
8,350.00	7.73	269.61	8,301.13	765.28	154.88	-160.09	10.00	10.00	0.00
8,391.49	11.88	269.61	8,342.00	765.24	147.82	-153.02	10.00	10.00	0.00
Top 3rd Bone Spring Sand (John)									
8,400.00	12.73	269.61	8,350.32	765.22	146.00	-151.21	10.00	10.00	0.00
8,450.00	17.73	269.61	8,398.54	765.13	132.87	-138.08	10.00	10.00	0.00
8,500.00	22.73	269.61	8,445.44	765.01	115.58	-120.79	10.00	10.00	0.00
8,550.00	27.73	269.61	8,490.66	764.87	94.28	-99.48	10.00	10.00	0.00
8,600.00	32.73	269.61	8,533.85	764.69	69.11	-74.31	10.00	10.00	0.00
8,650.00	37.73	269.61	8,574.67	764.50	40.28	-45.48	10.00	10.00	0.00
8,700.00	42.73	269.61	8,612.83	764.27	7.99	-13.20	10.00	10.00	0.00
8,750.00	47.73	269.61	8,648.03	764.03	-27.49	22.29	10.00	10.00	0.00
8,800.00	52.73	269.61	8,680.01	763.76	-65.91	60.71	10.00	10.00	0.00
8,829.04	55.64	269.61	8,697.00	763.60	-89.46	84.26	10.00	10.00	0.00
WOLFCAMP A (John)									
8,850.00	57.73	269.61	8,708.51	763.48	-106.97	101.77	10.00	10.00	0.00
8,900.00	62.73	269.61	8,733.33	763.18	-150.36	145.16	10.00	10.00	0.00
8,919.52	64.68	269.61	8,741.97	763.06	-167.85	162.66	10.00	10.00	0.00
PLAT FTP:1650' FNL & 330' FEL									

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,950.00	67.73	269.61	8,754.27	762.87	-195.74	190.55	10.00	10.00	0.00
9,000.00	72.73	269.61	8,771.17	762.55	-242.78	237.59	10.00	10.00	0.00
Caveman #402H: Pilot PBHL									
9,041.29	76.86	269.61	8,782.00	762.27	-282.62	277.42	10.00	10.00	0.00
Y Sand Top (John)									
9,050.00	77.73	269.61	8,783.91	762.21	-291.11	285.92	10.00	10.00	0.00
9,055.22	78.25	269.61	8,785.00	762.18	-296.22	291.02	10.00	10.00	0.00
TOP WINDOW									
9,100.00	82.73	269.61	8,792.40	761.88	-340.37	335.18	10.00	10.00	0.00
9,150.00	87.73	269.61	8,796.55	761.53	-390.18	384.99	10.00	10.00	0.00
9,172.36	90.12	269.61	8,797.00	761.38	-412.53	407.34	10.67	10.67	0.00
TARGET LANDING									
9,173.85	90.12	269.61	8,797.00	761.37	-414.02	408.83	0.00	0.00	0.00
PLAN: LP									
9,200.00	90.12	269.61	8,796.94	761.19	-440.17	434.98	0.00	0.00	0.00
9,300.00	90.12	269.61	8,796.74	760.50	-540.17	534.98	0.00	0.00	0.00
9,400.00	90.12	269.61	8,796.54	759.81	-640.17	634.98	0.00	0.00	0.00
9,500.00	90.12	269.61	8,796.33	759.12	-740.17	734.98	0.00	0.00	0.00
9,600.00	90.12	269.61	8,796.13	758.43	-840.16	834.98	0.00	0.00	0.00
9,700.00	90.12	269.61	8,795.92	757.75	-940.16	934.98	0.00	0.00	0.00
9,800.00	90.12	269.61	8,795.72	757.06	-1,040.16	1,034.98	0.00	0.00	0.00
9,900.00	90.12	269.61	8,795.52	756.37	-1,140.16	1,134.98	0.00	0.00	0.00
10,000.00	90.12	269.61	8,795.31	755.68	-1,240.15	1,234.98	0.00	0.00	0.00
10,100.00	90.12	269.61	8,795.11	754.99	-1,340.15	1,334.98	0.00	0.00	0.00
10,200.00	90.12	269.61	8,794.90	754.30	-1,440.15	1,434.98	0.00	0.00	0.00
10,300.00	90.12	269.61	8,794.70	753.62	-1,540.15	1,534.98	0.00	0.00	0.00
10,400.00	90.12	269.61	8,794.50	752.93	-1,640.14	1,634.98	0.00	0.00	0.00
10,500.00	90.12	269.61	8,794.29	752.24	-1,740.14	1,734.98	0.00	0.00	0.00
10,600.00	90.12	269.61	8,794.09	751.55	-1,840.14	1,834.98	0.00	0.00	0.00
10,700.00	90.12	269.61	8,793.88	750.86	-1,940.14	1,934.98	0.00	0.00	0.00
10,800.00	90.12	269.61	8,793.68	750.17	-2,040.13	2,034.98	0.00	0.00	0.00
10,900.00	90.12	269.61	8,793.48	749.49	-2,140.13	2,134.98	0.00	0.00	0.00
11,000.00	90.12	269.61	8,793.27	748.80	-2,240.13	2,234.98	0.00	0.00	0.00
11,100.00	90.12	269.61	8,793.07	748.11	-2,340.13	2,334.98	0.00	0.00	0.00
11,200.00	90.12	269.61	8,792.86	747.42	-2,440.12	2,434.98	0.00	0.00	0.00
11,300.00	90.12	269.61	8,792.66	746.73	-2,540.12	2,534.98	0.00	0.00	0.00
11,400.00	90.12	269.61	8,792.46	746.04	-2,640.12	2,634.98	0.00	0.00	0.00
11,500.00	90.12	269.61	8,792.25	745.36	-2,740.11	2,734.98	0.00	0.00	0.00
11,600.00	90.12	269.61	8,792.05	744.67	-2,840.11	2,834.98	0.00	0.00	0.00
11,700.00	90.12	269.61	8,791.84	743.98	-2,940.11	2,934.98	0.00	0.00	0.00
11,800.00	90.12	269.61	8,791.64	743.29	-3,040.11	3,034.98	0.00	0.00	0.00
11,900.00	90.12	269.61	8,791.44	742.60	-3,140.10	3,134.98	0.00	0.00	0.00
12,000.00	90.12	269.61	8,791.23	741.91	-3,240.10	3,234.98	0.00	0.00	0.00
12,100.00	90.12	269.61	8,791.03	741.23	-3,340.10	3,334.98	0.00	0.00	0.00
12,200.00	90.12	269.61	8,790.82	740.54	-3,440.10	3,434.98	0.00	0.00	0.00
12,300.00	90.12	269.61	8,790.62	739.85	-3,540.09	3,534.98	0.00	0.00	0.00
12,400.00	90.12	269.61	8,790.42	739.16	-3,640.09	3,634.98	0.00	0.00	0.00
12,500.00	90.12	269.61	8,790.21	738.47	-3,740.09	3,734.98	0.00	0.00	0.00
12,600.00	90.12	269.61	8,790.01	737.78	-3,840.09	3,834.98	0.00	0.00	0.00
12,700.00	90.12	269.61	8,789.80	737.10	-3,940.08	3,934.98	0.00	0.00	0.00
12,800.00	90.12	269.61	8,789.60	736.41	-4,040.08	4,034.98	0.00	0.00	0.00
12,900.00	90.12	269.61	8,789.40	735.72	-4,140.08	4,134.98	0.00	0.00	0.00
13,000.00	90.12	269.61	8,789.19	735.03	-4,240.08	4,234.97	0.00	0.00	0.00

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,100.00	90.12	269.61	8,788.99	734.34	-4,340.07	4,334.97	0.00	0.00	0.00
13,200.00	90.12	269.61	8,788.78	733.65	-4,440.07	4,434.97	0.00	0.00	0.00
13,300.00	90.12	269.61	8,788.58	732.97	-4,540.07	4,534.97	0.00	0.00	0.00
13,400.00	90.12	269.61	8,788.38	732.28	-4,640.07	4,634.97	0.00	0.00	0.00
13,500.00	90.12	269.61	8,788.17	731.59	-4,740.06	4,734.97	0.00	0.00	0.00
13,600.00	90.12	269.61	8,787.97	730.90	-4,840.06	4,834.97	0.00	0.00	0.00
13,700.00	90.12	269.61	8,787.76	730.21	-4,940.06	4,934.97	0.00	0.00	0.00
13,800.00	90.12	269.61	8,787.56	729.52	-5,040.06	5,034.97	0.00	0.00	0.00
13,900.00	90.12	269.61	8,787.36	728.84	-5,140.05	5,134.97	0.00	0.00	0.00
14,000.00	90.12	269.61	8,787.15	728.15	-5,240.05	5,234.97	0.00	0.00	0.00
14,100.00	90.12	269.61	8,786.95	727.46	-5,340.05	5,334.97	0.00	0.00	0.00
14,200.00	90.12	269.61	8,786.74	726.77	-5,440.05	5,434.97	0.00	0.00	0.00
14,300.00	90.12	269.61	8,786.54	726.08	-5,540.04	5,534.97	0.00	0.00	0.00
14,400.00	90.12	269.61	8,786.34	725.39	-5,640.04	5,634.97	0.00	0.00	0.00
14,500.00	90.12	269.61	8,786.13	724.71	-5,740.04	5,734.97	0.00	0.00	0.00
14,600.00	90.12	269.61	8,785.93	724.02	-5,840.04	5,834.97	0.00	0.00	0.00
14,700.00	90.12	269.61	8,785.72	723.33	-5,940.03	5,934.97	0.00	0.00	0.00
14,800.00	90.12	269.61	8,785.52	722.64	-6,040.03	6,034.97	0.00	0.00	0.00
14,900.00	90.12	269.61	8,785.32	721.95	-6,140.03	6,134.97	0.00	0.00	0.00
15,000.00	90.12	269.61	8,785.11	721.26	-6,240.02	6,234.97	0.00	0.00	0.00
15,100.00	90.12	269.61	8,784.91	720.58	-6,340.02	6,334.97	0.00	0.00	0.00
15,200.00	90.12	269.61	8,784.70	719.89	-6,440.02	6,434.97	0.00	0.00	0.00
15,300.00	90.12	269.61	8,784.50	719.20	-6,540.02	6,534.97	0.00	0.00	0.00
15,400.00	90.12	269.61	8,784.30	718.51	-6,640.01	6,634.97	0.00	0.00	0.00
15,500.00	90.12	269.61	8,784.09	717.82	-6,740.01	6,734.97	0.00	0.00	0.00
15,600.00	90.12	269.61	8,783.89	717.13	-6,840.01	6,834.97	0.00	0.00	0.00
15,700.00	90.12	269.61	8,783.68	716.45	-6,940.01	6,934.97	0.00	0.00	0.00
15,800.00	90.12	269.61	8,783.48	715.76	-7,040.00	7,034.97	0.00	0.00	0.00
15,900.00	90.12	269.61	8,783.28	715.07	-7,140.00	7,134.97	0.00	0.00	0.00
16,000.00	90.12	269.61	8,783.07	714.38	-7,240.00	7,234.97	0.00	0.00	0.00
16,035.02	90.12	269.61	8,783.00	714.14	-7,275.02	7,269.99	0.00	0.00	0.00
Caveman #402H Deflection Point									
16,093.59	91.29	269.61	8,782.28	713.74	-7,333.58	7,328.55	2.00	2.00	0.00
16,100.00	91.29	269.61	8,782.14	713.69	-7,339.99	7,334.96	0.00	0.00	0.00
16,200.00	91.29	269.61	8,779.89	713.00	-7,439.96	7,434.94	0.00	0.00	0.00
16,300.00	91.29	269.61	8,777.64	712.32	-7,539.93	7,534.91	0.00	0.00	0.00
16,400.00	91.29	269.61	8,775.39	711.63	-7,639.91	7,634.89	0.00	0.00	0.00
16,500.00	91.29	269.61	8,773.15	710.94	-7,739.88	7,734.86	0.00	0.00	0.00
16,600.00	91.29	269.61	8,770.90	710.25	-7,839.85	7,834.84	0.00	0.00	0.00
16,700.00	91.29	269.61	8,768.65	709.56	-7,939.82	7,934.81	0.00	0.00	0.00
16,800.00	91.29	269.61	8,766.40	708.88	-8,039.80	8,034.78	0.00	0.00	0.00
16,900.00	91.29	269.61	8,764.15	708.19	-8,139.77	8,134.76	0.00	0.00	0.00
17,000.00	91.29	269.61	8,761.91	707.50	-8,239.74	8,234.73	0.00	0.00	0.00
17,100.00	91.29	269.61	8,759.66	706.81	-8,339.71	8,334.71	0.00	0.00	0.00
17,200.00	91.29	269.61	8,757.41	706.12	-8,439.69	8,434.68	0.00	0.00	0.00
17,300.00	91.29	269.61	8,755.16	705.43	-8,539.66	8,534.66	0.00	0.00	0.00
17,400.00	91.29	269.61	8,752.91	704.75	-8,639.63	8,634.63	0.00	0.00	0.00
17,500.00	91.29	269.61	8,750.67	704.06	-8,739.60	8,734.61	0.00	0.00	0.00
17,600.00	91.29	269.61	8,748.42	703.37	-8,839.58	8,834.58	0.00	0.00	0.00
17,700.00	91.29	269.61	8,746.17	702.68	-8,939.55	8,934.56	0.00	0.00	0.00
17,800.00	91.29	269.61	8,743.92	701.99	-9,039.52	9,034.53	0.00	0.00	0.00
17,900.00	91.29	269.61	8,741.67	701.31	-9,139.49	9,134.51	0.00	0.00	0.00
18,000.00	91.29	269.61	8,739.43	700.62	-9,239.46	9,234.48	0.00	0.00	0.00
18,100.00	91.29	269.61	8,737.18	699.93	-9,339.44	9,334.46	0.00	0.00	0.00

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
18,200.00	91.29	269.61	8,734.93	699.24	-9,439.41	9,434.43	0.00	0.00	0.00
18,300.00	91.29	269.61	8,732.68	698.55	-9,539.38	9,534.41	0.00	0.00	0.00
18,400.00	91.29	269.61	8,730.43	697.86	-9,639.35	9,634.38	0.00	0.00	0.00
18,500.00	91.29	269.61	8,728.19	697.18	-9,739.33	9,734.36	0.00	0.00	0.00
18,600.00	91.29	269.61	8,725.94	696.49	-9,839.30	9,834.33	0.00	0.00	0.00
18,700.00	91.29	269.61	8,723.69	695.80	-9,939.27	9,934.30	0.00	0.00	0.00
18,800.00	91.29	269.61	8,721.44	695.11	-10,039.24	10,034.28	0.00	0.00	0.00
18,900.00	91.29	269.61	8,719.19	694.42	-10,139.22	10,134.25	0.00	0.00	0.00
18,989.86	91.29	269.61	8,717.17	693.80	-10,229.05	10,224.09	0.00	0.00	0.00
PLAT LTP:1650' FNL & 330' FWL									
19,000.00	91.29	269.61	8,716.95	693.73	-10,239.19	10,234.23	0.00	0.00	0.00
19,100.00	91.29	269.61	8,714.70	693.05	-10,339.16	10,334.20	0.00	0.00	0.00
19,200.00	91.29	269.61	8,712.45	692.36	-10,439.13	10,434.18	0.00	0.00	0.00
19,220.06	91.29	269.61	8,712.00	692.22	-10,459.18	10,454.23	0.00	0.00	0.00
PLAT PBHL: 1650' FNL & 100' FWL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLAT #402H SHL: 24 - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	512,227.98	576,054.99	32.408132	-104.220836
PLAT PBHL: 1650' FN - plan hits target center - Point	0.00	0.00	8,712.00	692.22	-10,459.18	512,920.20	565,595.80	32.410061	-104.254726
PLAT LTP:1650' FNL - plan misses target center by 9.38usft at 18989.86usft MD (8717.17 TVD, 693.80 N, -10229.05 E) - Point	0.00	0.00	8,717.18	684.42	-10,228.98	512,912.40	565,826.00	32.410039	-104.253980
Caveman #402H Defl - plan hits target center - Point	0.00	0.00	8,783.00	714.14	-7,275.02	512,942.12	568,779.96	32.410114	-104.244408
PLAT FTP:1650' FNL - plan misses target center by 56.03usft at 8919.52usft MD (8741.97 TVD, 763.06 N, -167.85 E) - Point	0.00	0.00	8,792.85	763.22	-144.38	512,991.20	575,910.60	32.410230	-104.221302
PLAN: LP - plan misses target center by 0.01usft at 9173.85usft MD (8797.00 TVD, 761.37 N, -414.02 E) - Point	0.00	0.00	8,797.00	761.37	-414.02	512,989.35	575,640.97	32.410226	-104.222175
Caveman #402H: Pilo - plan misses target center by 1198.57usft at 9000.00usft MD (8771.17 TVD, 762.55 N, -242.78 E) - Point	0.00	0.00	9,900.00	765.32	160.09	512,993.30	576,215.08	32.410235	-104.220315

SANTO PETROLEUM

Planning Report

WELLBENDERS DIRECTIONAL SERVICES

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #402H
Company:	Santo Petroleum	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD 83 - NME)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	Caveman 7-12	**North Reference:**	Grid
Well:	#402H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ST01		
Design:	ST01: Plan #4		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
459.00	459.00	Top Salt (John)			
1,153.00	1,153.00	Base Salt (John)			
1,654.07	1,654.00	Delaware			
1,703.17	1,703.00	Lamar Limestone			
1,967.81	1,966.00	Base Lamar Limestone			
5,176.55	5,149.00	BONE SPRING			
6,337.86	6,301.00	Top 1st BSPG Sand (John)			
6,606.01	6,567.00	Top 2nd Bone Spring Carbonate (Jo			
6,982.03	6,940.00	Top 2nd Bone Spring Sand (John)			
7,254.21	7,210.00	Top 3rd Bone Spring Carbonate (Jol			
8,391.49	8,342.00	Top 3rd Bone Spring Sand (John)			
8,829.04	8,697.00	WOLFCAMP A (John)			
9,041.29	8,782.00	Y Sand Top (John)			
9,055.22	8,785.00	TOP WINDOW			
9,172.36	8,797.00	TARGET LANDING			

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 20470

COMMENTS

Operator:	OGRID:	Action Number:	Action Type:
SPC RESOURCES, LLC P.O. Box 1020 Artesia, NM88211	372262	20470	C-103A

Created By	Comment	Comment Date
kpickford	KP GEO Review 3/12/2021	03/12/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 20470

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
SPC RESOURCES, LLC P.O. Box 1020 Artesia, NM88211	372262	20470	C-103A

OCD Reviewer	Condition
jagarcia	New Property ID is 330286