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

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

CASE NO. 16446

APPLICATION OF SALT CREEK MIDSTREAM, LLC FOR AUTHORIZATION TO INJECT ACID GAS INTO THE PROPOSED LEAVENWORTH AGI NO. 1 WELL IN SECTION 23, TOWNSHIP 26 SOUTH, RANGE 36 EAST, LEA COUNTY, NEW MEXICO.

ENTRY OF APPEARANCE AND NOTICE OF INTERVENTION

David Brooks hereby enters his appearance on behalf of the Oil Conservation Division, "the Division") as an intervening party.

The Division has standing to intervene as the agency responsible for reviewing these applications.

The Division requests that is late intervention be allowed, as it was not feasible to file sooner.

Respectfully submitted,

David K. Brooks

Assistant General Counsel

Energy, Minerals and Natural

Resources Department

1220 S. St. Francis Drive

Santa Fe, NM 87505

(505) 476-3215

Email: davidk.brooks@state.nm.us

Attorney for the Oil Conservation Division

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing pleading was served upon the following party by email on September 27, 2018:

Adam G. Rankin Holland &Hart, LLP P.O. Box 2208 Santa Fe, NM 87504 (505)-988-4421 arankin@hollandhart.com

David K. Brooks

Assistant General Counsel Energy, Minerals and Natural Resources Department 1220 S. St. Francis Drive Santa Fe, NM 87505

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OIL CONSERVATION DIVISION'S PRE-HEARING STATEMENT

The Oil Conservation Division through its counsel files the following Pre-hearing Statement.

PARTIES AND ATTORNEYS

APPLICANT Salt Creek Midstream, LLC

APPLICANT'S ATTORNEYS
Adam G. Rankin
Holland & Hart, LLP
P.O. Box 2208
Santa Fe, NM 87504
(505)-988-4421
arankin@hollandhart.com

INTERVENOR
Oil Conservation Division

INTERVERNOR'S ATTORNEY
David K. Brooks
Assistant General Counsel
Energy, Minerals and Natural Resources
Department
1220 S. St. Francis Drive
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davidk.brooks@state.nm.us
Phone (505)-476-3415

STATEMENT OF THE CASE

Salt Creek Midstream, LLC (Salt Creek) has filed an application for authorization to inject treated acid gas (TAG) for purposes of disposal through its proposed Leavenworth AGI Well No. 1 located in Section 23, Township 26 South, Range 36 East, NMPM in Lea County, New Mexico. Salt Creek proposes injecting an average daily rate of approximately 25,000,000 standard cubic feet of TAG (with a maximum daily rate of 60,000,000 standard cubic feet of TAG) into the Devonian and Silurian formations at a projected depth from approximately 16,459 feet to 18,600 feet.

The Oil Conservation Division does not oppose Salt Creek's request for the injection authority for the proposed well.

INTERVENOR'S PROPOSED EVIDENCE

WITNESS:

Phillip Goetze, Geologic Specialist, Oil Conservation Division of the Energy, Minerals and Natural Resources Department: Mr. Goetze has over 40 years of experience developing and implementing projects with environmental, hydrologic, mineral extraction, and regulatory application. Mr. Goetze's duties include the review of Class II Injection wells, along with serving as a hearing examiner for the Division in cases which include applications for injection permits and termination of injection authorization for breach of permit conditions. A copy of Mr. Goetze's resume describing his education and experience in detail is attached as Exhibit 3.

Mr. Goetze's testimony will include the results of the Division's review of the Form C-108 application submitted by Lonquist & Company, LLC, on behalf of Salt Creek. This will include recommendations for modifications of proposed activities described in the application and for conditions of approval to be incorporated into any order authorizing the injection of TAG for this proposed well.

Mr. Goetze's testimony is expected to last 20 minutes.

The Division will offer Mr. Goetze as an expert in petroleum geology and underground injection.

EXHIBITS

- [1] Summary Table of Current UIC Class II Acid Gas Injection Wells in New Mexico
- [2] Correspondence of proposed modifications and additional conditions of approval of authorization to inject

[3] Resume of Phillip Goetze

PROCEDURAL MATTERS

The Division's counsel knows of no procedural matters that the Commission needs to address.

Respectfully submitted,

Hand K. Budh

David K. Brooks

Assistant General Counsel

Energy, Minerals and Natural

Resources Department

1220 S. St. Francis Drive

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(505) 476-3215

Email: davidk.brooks@state.nm.us

Attorney for the Oil Conservation Division

Certificate of Service

I hereby certify that the Oil Conservation Division's Pre-Hearing Statement was served by email on September 27, 2018.

Adam G. Rankin Holland & Hart, LLP P.O. Box 2208 Santa Fe, NM 87504 (505)-988-4421 arankin@hollandhart.com

David K. Brooks

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Email: davidk.brooks@state.nm.us Attorney for the Oil Conservation

Division

ase No. 16446



2018 Inventory of UIC Class II Acid Gas Injection (AGI) Wells

Notes	Acid gas injection authority approved under SWD-865-A (03/08/1998, 100 MSCFPD of 0.22% H ₂ S gas); rescinded 10/09/2007 under Administrative Order SWD-865-C.	Wolfcamp perfs squeezed for period when well was injection; last injection reported January 24, 2001; 2001 recompleted as Morrow producer, Devonian open hole was plug backed with cement to 9792 ft. SWD-416-A expired ipso facto.	Replacement well for Indian Basin Com Well No. 1; no record of inclusion in H ₂ S plan; no gas injection reported.	Originally approved as new well under Order No. R-12809 (Case No. 13865); SWD order allowed for substitution of proposed well with existing well; gas disposal reporting initiated in 2011.	Well was cancelled in 2010 (injection authority) and 2011 (federal APD); re-completed Eunice Gas Plant Well No. 1 as substitution.	Pressures reported are below Maximum Surface Injection Pressure (MSIP) for gas; annual MIT requirement on page 2, Ordering Paragraph (3), SWD-838-B.	Pressures reported are below MSIP.	Order No. R-13507 has original design specification; well changed ownership; previously drilled but not perforated until recently (well was TA for a period without final perforations); amended order required to re-instate injection authority approved by Commission; commenced injection May 2018.		Order No. R-13443 has original design specification; Order No. R-13443-C permits a 3.5 MMSCFD into both wells or for a single operating well; Administrative Order IPI-454 increases MSIP to 3200 psi.	Order No. R-13443-C permits a 3.5 MMSCFD into both wells or for a single operating well; Administrative Order IPI-506 increases MSIP to 3200 psi.	Commission Orders R-12546 with amended orders -A though -K cover both AGI wells, No. 1 well developed leaking tube set (failed MIT) requiring additional hearings on restricted operation and additional monitoring / reporting requirements that are now SOP for AGI wells, R-12546-I removed temporary rate and pressure limits.	Commission Orders R-12546 with amended orders -A though -K cover both AGI wells.	Temporary MSIP increase approved and ended 12/1/2015; C-115 reports show all produced water with no gas injection and pressures below MSIP of 986 psi.	Order No. R-13809-A approved new surface and bottom-hole locations for both wells.	Order No. R-13809-A approved new surface and bottom-hole locations for both wells.	Operator modified injection interval to Devonian section through Commission hearing and used existing APD approval for deeper well; the original Zia AGi No. 2 well never spud.	Well is plugged and abandoned, replaced by two new AGI wells.		Redundant well to D No. 2; no approved APD at present, replacement well approved through administrative order using content of Commission Order No. R-13052 (as amended) as template.
H ₂ S Contingency Plan For AGI Well (Date)	Not required under current operating conditions.	Not required	Not required under current operating conditions.	H2S-048-0 (Revised 2011)	NA	H2S-051-0 (Feb 2015)	H2S-054-0 (June 2012)	H2S-064-0 (April 2018)	H2S-057-0 (October 2009)	H2S-044-0 (Revised Oct 2015)	H2S-044-0 (Revised Oct 2015)	H2S-043-0 (Revised Jan 2015)	H2S-043-0 (Revised Jan 2015)	H2S-045-0 (2008)	H2S-063-0 (Revised 2016)	NA	H2S-063-0 (Revised 2016)	H2S-046-0 (2012)	Amendment of 2012 plan pending	Amendment of 2012 plan pending
Associated Processing P	East Blanco Water / H ₂ S Disposal Facility	Indian Basin Gas Processing Plant	Indian Basin Gas Processing Plant	Eunice Gas Plant	Eunice Gas Processing Plant	Artesia Gas Plant	Dagger Draw Gas Plant	Red Hills Gas Plant	San Juan River Gas Processing Plant	Maljamar Gas Processing Plant	Maljamar Gas Processing Plant	Linam Ranch Gas Processing Plant	Linam Ranch Gas Processing Plant	South Eunice Gas Processing Plant	Zia II Gas Processing Plant	Zia II Gas Processing Plant	Zia II Gas Processing Plant	Monument Gas Plant	Monument Gas Processing Plant	Monument Gas Processing Plant
Effective Order Date (Admin or Haering)	3/9/2007	4/12/2000	8/17/2000	3/27/2012	9/14/2007	11/5/2002	3/14/2011	11/9/2017	2/15/2011	8/11/2011	11/19/2014	5/6/2006	2/14/2013	3/21/2008	3/13/2014	3/13/2014	9/6/2016	11/16/2006	9/6/2016	4/24/2017
Case No.	NA	NA	NA	13865 and 14575	13865	NA	14601	14720	14329 and 14080	14664 and 15193	15193	13589	13589	14080	15073	15073	15528	14161	15740	15740
Hearing	None	None	NA	R-12809-D	R-12809	None	R-13371	R-13507-E	R-13201-B	R-13443-A	R-13443-B	R-12546-K	R-12546-K	R-12921	R-13809	R-13809	R-14207	R-13052	R-13052-B	R-13052-B
Admin Order (If applicable)	SWD-665-C	SWD-416-A	SWD-784-0	SWD-1161-0	NA	SWD-838-B	SWD-936-0	NA	NA	NA	NA	AA	NA	N A	NA	NA	NA	Ą	SWD-1654-0	SWD-1671-0
H ₂ S (Or Other Gas) - CO ₂ Content	NA	NA	50% - 50%	85% SO ₂ -	85% SO ₂ - 15%	35% - 63%	61% - 38%	98 - 95%	20% - 78%	12% - 88%	12% - 88%	25% - 75%	25% - 75%	20% - 78%	11% - 89%	11% - 89%	11% - 89%	28% - 62%	18% - 82%	18% - 82%
Date of Current MIT	8/17/2017	NA	10/9/2014	8/2/2017	NA	8/16/2013	12/7/2016	1/12/2018	1/4/2018	8/4/2017	8/4/2107	6/7/2017	2/16/2017	7/27/2017	7/26/2017	NA	1/25/2017	NA	3/22/2017	NA
Schedule for Testing	5-year MIT cycle	MIT annually when injection order in effect	5-year MIT cycle	5-year MIT cycle (see R- 12809-C)	MIT every 2 years	Annual MIT	MIT every 2 years	MIT every 2 years	MIT every 2 years	Annual MIT	Annual MIT	MIT every <u>6</u> months until new packer installed, then annual testing (Ordering Paragraph (Z) amended order R-12546-K)	Annual MIT	MIT every 2 years	MIT annually	MiT annually	MiT annually	MIT every 2 years	MIT annually	MIT annually
MSIP / Rate Limitations	1720 psi	2020 psi (1991)	2070 psi; no differentiation for liquid vs. gas	1600 psi (see R-12809-D)	900 psi [limited by bottom-hole pressure]	Gas (with SpG of 0.8): 3240 psi Water: 2240 psi	3280 psi	2085 psi; not to exceed 13 MMSCFD	2160 psi	3200 psi; not to exceed 3.5 MMSCFD	3200 psi; not to exceed 3.5 MMSCFD	Gas (with SpG of 0.8): 2644 psi	Gas (with SpG of 0.8): 2644 psi	986 psi for original mixed liquid and gas injection; temporary 1330 psi gas only (ending 12/01/2015)	2233 psi	2233 psi	5028 psi	1660 psi	3000 psi; not to exceed 5.0 MMSCFPD	3000 psi; not to exceed 5.0 MMSCFPD
2017 C-115 Reported Fluids	Only liquid reported	No injection; producing gas well (Morrow)	Only liquid reported	Gas and liquid	NA	Gas only	Gas only	Gas only	Gas only	Gas only	Gas only	Gas only	Gas only	Liquid only	Gas only	NA	Gas only	P&A'd on 10/11/2017	Gas only	Gas only
Permitted Disposal Fluids	Produced water only	Produced water and gas plant waste	Produced water and gas plant waste	Gas plant waste	Gas and liquid plant waste	Acid gas	Acid gas	Acid gas	Gas byproducts	Gas processing waste	Gas processing waste	Gas processing waste	Gas processing waste	Gas and liquid plant waste	Gas processing waste	Gas processing waste	Gas processing waste	Production water plus gas	Gas processing waste	Gas processing waste
Re-entry of Existing Well or New Well	Re-entry	Re-entry	New well	Conversion of existing well	New well	New well	Re-entry	New well	New well	New well	New well	New well	New well	New well	New well	New well	New well	New well	New well	New well
Open-hole or Perforations (Depth of interval; in ft)	Perfs: 8600 to 9570	P&A open-hole: 10,100 to 10,400	Open-hole: 10,350 to 11,000	Open-hole: 4,250 to (4,950	Perfs: 4500 to 5000	Perfs: 11,200 to 11,500	Open-hole: 9,930 to 10,500	Perfs: 6,230 to 6,585	Open-hole: 6,350 to 6,490	Perfs: 9,579 to 10,130	Perfs: 9,600 to 10,220	Perfs: 8,710 to 9,085	Perfs: 8765 to 9006	Perfs: 4375 to 5200	Perfs: 5682 to 6260	Approved for 5470 to 6070	Open-hole: 13755 to 14750	Open-hale: 8,350 to 9,200 (TD)	Open-hole: 8350 to 9210	Open-hole: 8350 to 9210
Injection Formation(s)	Morrison and Entrada	Devonian	Devonian	San Andres	San Andres	Devonian	Devonian, Fusselman, and Montoya	Cherry Canyon	Entrada	Lower Leonard and Wolfcamp	Lower Leonard and Wolfcamp	Lower Bone Springs (Wolfcamp)	Lower Bone Springs (Wolfcamp)	San Andres	Cherry Canyon and Brushy Canyon	Cherry Canyon and Brushy Canyon	Devonian and Silurian	Devonian and Fusselman	Devonian and Silurian	Devonian and Silurian
Permit Description	SWD only; amended to nclude acid gas	Acid gas plus onsite waste water	Acid gas plus onsite waste water	Acid gas and wastewater	Acid gas and production water	Treated acid gas	Treated acid gas	Treated acid	Treated acid	Treated acid	Treated acid	Treated acid gas	Treated acid	Acid gas and production water	Treated acid	Treated acid	Treated acid gas	Acid gas plus onsite waste water	Treated acid gas	Treated acid gas
Footages	1730' FSL & 1820' FEL	1980' FNL & 660' FWL	2139' FNL & 1061' FWL	2580' FSL & 1200' FWL	2251' FSL & 1201' FWL	1232' FSL & 1927' FEL	1650' FSL & 1650' FWL	1600' FSL & 150' FEL	1650' FNL & 2260' FWL	130' FSL & 1813' FEL	400' FSL & 2100' FEL	1980' FSL & 1980' FWL	1600' FSL & 1750' FWL	1550' FNL & 1000' FWL	2100' FSL & 950' FWL	1900' FSL & 950' FWL	1893' FNL & 950' FWL	662' FSL & 2513' FEL	685' FSL & 2362' FEL	905' FSL & 2362' FEL
Legal (UL-Sec-Twp- Rge)	J-13-30N-4W	E-23-21S-23E	E-23-21S-23E	L-27-22S-37E	L-27-22S-37E	O-7-18S-28E	K-36-18S-25E	I-13-24S-33E	F-1-29N-15W	O-21-17S-32E	O-21-17S-32E	K-30-18S-37E	K-30-18S-37E	E-33-24S-37E	Lot 3 (L)-19- 19S-32E	Lot 3 (L)-19- 19S-32E	Lot 3 (L)-19- 19S-32E	O-36-19S-36E	O-36-19S-36E	O-36-19S-36E
Current Operator	Black Hills Gas Resources	OXY USA WTP Limited Partnership	OXY USA WTP Limited Partnership	Targa Midstream Services	Targa Midstream Services	DCP Operating Company	Agave Energy	Lucid Energy Delaware, LLC	CCI San Juan	Frontier Field Services	Frontier Field Services	DCP Operating Company	DCP Operating Company	ETC Field Services	DCP Operating Company	DCP Operating Company	DCP Operating Company	Targa Midstream Services	Targa Midstream Services	Targa Midstream Services
Well Name	Sims Fed No. 1	Indian Basin Gas Com No. 1	AGI SWD No. 1	Eunice Gas Plant SWD No. 1	Versado AGI No. 1L	Duke AGI No. 1	Metropolis Disposal No. 1	Red Hills AGI No. 1	Pathfinder AGI No. 1	Maljamar AGI No. 1	Majamar AGI No. 2	Linam AGI No. 1	Linam AGI No. 2	Jal 3 AGI No. 1	Zia AGI No. 1	Zia AGI No. 2	Zia AGI D No. 2	Monument AGI No. 1	Monument AGI D No. 2	Monument AGI D No. 3
АРІ	30-039-22756	30-015-00037	30-015-31294	30-025-21497	30-025-39254	30-015-32324	30-015-31905	30-025-40448	30-045-35172	30-025-40420	30-025-42628	30-025-38576	30-025-42139	30-025-38822	30-025-42208		30-025-42207	30-025-40002	30-025-43470	30-025-Pending
AGI Wells as of 09/27/2018	A N	4	-	2	NA	8	4	ıo	ø	7	8	o	10	Ξ	22	!	2	Ā	4-	15

Case No. 16446 Division Exhibit 2

State of New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez Governor

Ken McQueen Cabinet Secretary

Heather Riley, Division Director Oil Conservation Division



Matthias Sayer Deputy Cabinet Secretary

Date: September 27, 2018

To: New Mexico Oil Conservation Commission

From: Phillip Goetze, Engineering Bureau, OCD Santa F

William V. Jones, Bureau Chief, Engineering Bureau, OCD Santa Fe [Reviewer]

RE: STATEMENT REGARDING DIVISION'S REVIEW OF C-108 APPLICATION

<u>Case No. 16446</u>: Application of Salt Creek Midstream, LLC for Authorization to Inject Acid Gas into the Proposed Leavenworth AGI No. 1 well in Section 23, Township 26 South, Range 36 East, Lea County, New Mexico.

Introduction

As part of the reviews performed for UIC Class II well applications, the Division requests applicant for acid gas injection (AGI) wells file for a hearing before the Oil Conservation Commission. With this request for a Commission hearing, the Division is obligated to provide the Commission with the results of an analysis of the information submitted in the Form C-108 application.

The applicant has provided to the Division two C-108 applications for Case No. 16446: one dated August 20, 2018 and a second dated September 20, 2018. The Division received the second application on September 27, 2018, limiting the time for review. The Division will provide the Commission with any additional recommendations should further review find issues.

Review of the C-108 Application Dated September 20, 2018

The Division has made several remarks and recommendations following a cursory review of the original C-108 application dated August 20, 2018. As a result, the applicant addressed these items in the second application:

1. The change of casing design: the well was originally proposed with a 75%-inch production liner hung from 103/4-inch intermediate casing. The Division had requested the applicant reconsider this design to have the liner replaced with a production casing string that was set at the top of the injection interval extending to surface. The new C-108 application contains a well design that provides for a cemented, 95%-inch production casing from the top of the injection interval to surface. The remaining casing strings and corresponding cement programs have been reconfigured to accommodate the larger production casing. The production casing design also includes 160 feet of corrosion-resistant casing at the base in contact with the injection interval.

This design change also addresses a concern by the Division for the use of $5\frac{1}{2}$ -inch tubing that was proposed for use with the $7\frac{5}{8}$ -inch production liner. The Division is not opposed to the use of $5\frac{1}{2}$ -inch tubing with the $9\frac{5}{8}$ -inch production casing.

2. Water well samples: the new application includes two recent water samples from water wells within one mile that satisfies Section XI of the Form C-108 application.

Recommendations to the Commission

The Division supports the approval of the application by Salt Creek for the proposed Leavenworth AGI Well No. 1 with the following recommendations for incorporation into any order authorizing injection. Some of these conditions, such as obtaining an approved hydrogen sulfide contingency plan prior to injection, were noted in the application, but the Division suggests their inclusion into an order to accommodate both the applicant and the Division's district inspectors in satisfying the requirements for compliance.

- 1. In addition to the proposed geophysical suite, the Division requests a mudlog be included into the drilling program.
- 2. Conduct a mechanical integrity test ("MIT") on the proposed AGI well annually.
- 3. All well drilling logs along with a static bottomhole pressure and temperature measured after completion of the well shall be submitted to the Division's District I office.
- 4. The final reservoir evaluation should confirm that the open-hole portion of the AGI well does not intersect any fault planes in the Devonian-Silurian section.
- 5. Conduct a step-rate test on the completed well before commencing injection. The maximum injection pressure for the proposed well may be appropriately adjusted after a step-rate test with the approval of the Division Director.
- 6. Include a biocide component in the annular fluid (diesel) of the well.
- 7. Keep a maintenance log of its annular fluid (diesel) replacement activities in the annulus of the well.
- 8. Incorporate temperature controls to govern the temperatures of injected fluid within parameters set by the operator and provide an alarm system for those controls should the parameters be exceeded.
- 9. Conduct continuous monitoring of surface TAG injection pressure, temperature and rate, surface annular pressure and bottomhole temperatures and pressures inside the annulus.
- 10. Equip the well with a pressure-limiting device including a one-way safety valve on the tubing approximately 250 feet below the surface.
- 11. Provide summary data on injection parameters monitored in item 8, as requested by the Division in quarterly reports. After one year, the Division may approve submission of such reports annually upon request.
- 12. Prior to commencing injection, the operator shall prepare and secure approval of the Division's Environmental Bureau in the Santa Fe office of a hydrogen sulfide contingency plan that complies with Division Rule 19.15.11.9 NMAC.

- 13. Thirty days prior to commencing injection, the operator shall, coordinate with the Division to establish immediate notification parameters for annulus pressure and tubing and casing differential pressure at a set injection temperature.
- 14. Ninety days after commencing injection, the operator shall review the pre-injection immediate notification parameters with the Division. If the Division determines that the parameters require modification, new immediate notification parameters shall be developed and implemented in coordination with the Division.
- 15. The immediate notification parameters shall be reviewed jointly by the operator and the Division periodically, but not less frequently than once a year.
- 16. Provide a report at the completion of every tenth year of injection summarizing the AGI well's performance and potential calibration of models due to information collected during the prior ten-year period.

The Division would also request that the Commission stipulate a time period for the applicant to obligate to the installation of a redundant AGI well to this proposed well. Prior experiences with single AGI well sites have shown severe adverse impacts to well operations and production as a result of the single AGI well being shut-in due to mechanical integrity issues. The Division would request a commitment for a redundant well to avoid waste of resources and reduce environmental concerns.

Finally, the Division request that the Commission provide to the Division's Director the authority to modify the order administratively for the following items:

- 1. Correction of the depths to the injection interval as a result of subsurface data after completing the proposed well;
- 2. Extension of the injection commencement date;
- 3. Modification of the well's surface location as long as the original notice of affected persons and area of review wells remain unchanged; and
- 4. Modification of the reporting requirements if endorsed by the Division following review of supporting information.

Case No. 16446 Division Exhibit 3

PHILLIP R. GOETZE

Oil Conservation Division

Energy, Minerals and Natural Resources Department, State of New Mexico

Over 40 years of experience developing and implementing a variety of projects with environmental, hydrologic, or regulatory applications.

PROFESSIONAL EXPERIENCES:

February 2013 to Present: Senior Petroleum Geologist / Hearing Examiner / Geohydrologist Engineering Bureau, Oil Conservation Division, Energy, Minerals and Natural Resources Department

1220 South St. Francis Drive. Santa Fe. NM 87505

Administrative permitting for development and management of oil and gas resources under the state Oil and Gas Act. These projects include technical review of administrative applications and preparation of orders for non-standard locations, pool delineations, and non-standard proration units. Lead technical reviewer of applications for Class II wells (including salt water disposal wells and enhanced oil recovery (EOR) projects) under the New Mexico primacy agreement with the United States Environmental Protection Agency (USEPA) for its Underground Injection Control (UIC) Program under the Safe Drinking Water Act. Hearing examiner for Division hearings for cases regarding both protested and unprotested applications for approval of non-standard oil and gas circumstances that cannot be administratively permitted. Additional assignments related to the position:

Provide technical assistance to District personnel and General Counsel staff regarding compliance issues for disposal and EOR wells.

Development of protocols and recommended guidance for UIC related subjects such as induced seismicity, exempted aquifers and Class II disposal impacts on producing intervals.

Prepare quarterly reports for review by the UIC coordinator for submission to the USEPA.

Recommend changes in policy reflecting application of new technology or processes (e.g. injection rules per 19.15.26 NMAC).

Provided expert testimony before the Oil Conservation Commission for applications and in support of rulemaking (e.g. acid gas injection well applications, casing requirements in the Roswell Artesian Basin, and reporting requirements for fracturing fluids).

Provided expert testimony before the New Mexico Water Quality Control Commission (NMWQCC) in support of rulemaking (e.g. expanded authority for UIC Class I hazardous disposal wells).

Appointed as hearing examiner by the Division Director under 19.15.4.18 NMAC. Assist Santa Fe and District personnel with the Division's Loss Control Program.

March 2007 to February 2013: Hydrogeologist / Environmental Scientist / Project Manager Gloreita Geoscience, Incorporated

1723 Second Street, Santa Fe, NM 87505

Multiple projects for environmental, hydrologic, and natural resource assessments including:

Los Alamos National Laboratory (LANL): contract team leader for ground-water sampling (including springs, shallow wells, monitoring wells with Baski and Westbay systems) in support of the Ground Water Stewardship Program; four years of sediment mapping and soil sampling for contaminants as part of the LANL assessment of geomorphic influences following the Cerro Grande and Las Conchas fires; geodetic surveying (with Trimble RTK GPS and Geodimeter total station units) and waste characterization sampling following LANL and New Mexico Environment Department (NMED) protocols.

Oversight of drilling, logging, and construction of deep exploration wells as part of Rio Rancho's City Water Program and the NM Office of the State Engineer (Ft. Sumner project).

Phillip R. Goetze

Hydrologic modeling and ground-water abatement plan development for multiple dairy facilities in southern and eastern New Mexico.

Numerous Phase I Environmental Site Assessments (ESAs) for commercial, industrial, and undeveloped properties in northern New Mexico, Nevada, and Texas.

Establish protocols, sampling requirements, and compile data for annual reporting for clients with Closure and Post Closure plans for landfills.

Oversight of petroleum storage tank removals, closures, and Minimum Site Investigations following closure.

Preparation and annual reporting of NPDES permits for commercial clients in New Mexico.

Preparation and implementation of Stage I Abatement Plans for dairies in violation of the NMWQCC ground-water standards.

Quality assurance for ground-water modeling and various sampling programs including mandatory monitoring and special client-specific events.

April 2006 to January 2007: Hydrogeologist / Project Manager Tetra Tech EM Incorporated

6121 Indian School Road NE, Suite 205, Albuquerque, NM 87110

This position included responsibility for redevelopment of previous client relationships while maintaining obligations to state, Federal and private projects. Most significant projects include the following:

Supervising geologist for drilling, construction, and development of deep monitoring wells at Kirtland Air Force Base for Long-Term Monitoring Program.

Preparation of sampling and analysis plans for Texas Department of Criminal Justice landfills.

September 1999 to March 2006: Hydrogeologist / Project Manager ASCG Incorporated *of New Mexico* (now the WH Pacific Corporation)

6501 Americas Parkway NE, Suite 400, Albuquerque, NM 87110

Responsible for a variety of environmental services for site assessment and remediation of contaminated sites associated with Federal, state, and private clients in New Mexico, Arizona, and the Navajo Nation. Significant projects entail the following:

Field Technical Leader (as subcontractor) for drilling, construction, and development of deep and shallow monitoring wells at LANL for 2005.

Developed and supervised assessment drilling programs for Risk-Based Corrective Action assessments of petroleum-contaminated NMED and Bureau of Indian Affairs (BIA) sites in New Mexico and Arizona.

Responsible for project development and management of soil and ground-water remediation of hydrocarbon and solvent-contaminated sites including quarterly water sampling events and air monitoring for compliance.

Supervised and participated in resolution of correction actions identified under USEPA CA/CO 1998-02 at approximately 35 Bureau of Indian Affairs federal facilities including review of asbestos programs, PCB investigations and remediations, Phase I ESAs for property transfer, AST/UST removals, hazardous waste disposal activities, environmental audits, and validation sampling of previous remedial activities.

Completed development and oversight of voluntary corrective actions of hazardous wastes cited in notice of violations at the Southwestern Polytechnic Indian Institute.

Provided sampling program for the AMAFCA Storm Water Study for assistance in compliance of the MS4 for the City of Albuquerque.

Completed assessment for hydrocarbon contamination and prepared plans for remedial actions for five locations at BIA facilities during the last quarter of 2004.

Phillip R. Goetze

July 1996 to August 1999: Geologist / Environmental Scientist; General Contractor Phillip R. Goetze, Consulting Geologist, Edgewood, New Mexico

Subcontractor for environmental firms providing on-site technical support and report preparation. Primary contractors included the following:

Billings and Associates, Inc., Albuquerque, New Mexico

Responsible for acquisition of both soil and water data for assessment and for installation of remediation systems for hydrocarbon-contaminated sites.

Roy F. Weston Inc., Albuquerque, New Mexico

Temporary position with responsibilities for on-site supervisor for data acquisition (three drilling rigs), for health and safety monitoring, and for quality assurance of installation of multiple ground-water wells at a Department of Energy tailings remediation (UMTRA) site near Tuba City, Arizona.

January 1993 to July 1996: Project Geologist / Project Manager **Billings and Associates, Inc.**

6808 Academy Pkwy, E-NE, Suite A-4, Albuquerque, NM 87109

Responsible for acquisition of air, soil, and water data for site assessments related to leaking underground storage tanks throughout New Mexico. Participated and supervised installation, operation, and maintenance of biosparging/SVE remediation systems at five New Mexico locations. Site assessment activities included preparation of health and safety plans, drilling supervision, water and soil sampling preparation, chain-of-custody maintenance, analytical data review and compilation, and report preparation.

June 1985 to December 1992: Independent Geologist and Environmental Scientist Phillip R. Goetze, Consulting Geologist, Albuquerque, New Mexico

Subcontracting services for data acquisition in geophysics and mineral exploration. Primary contractors included:

Charles B. Reynolds and Associates, Albuquerque, New Mexico

Performed functions of seismologist and crew chief for consulting group specializing in shallow seismic geophysics for environmental and engineering applications. Projects included USGS hydrologic assessment of Mesilla Bolson; plume and paleosurface mapping at Johnson Space Center facility north of Las Cruces; plume and paleosurface mapping in Mortandad Canyon and TA-22 site, LANL; plume and paleosurface mapping at Western Pipeline facility at Thoreau, NM; plume and paleosurface mapping at UNC Partners mill and tailings site north of Milan; engineering assessment of collapsible soils at Tanoan residential development and along the east edge of Albuquerque.

Glorieta Geoscience, Inc., Santa Fe, New Mexico

Initiated and conducted sampling program for assessing economic potential of low-grade gold occurrence in southwest New Mexico.

November 1983 to September 1984: Fluid Minerals Geologist Bureau of Land Management, Department of Interior, Cheyenne, Wyoming

Temporary detail to Casper office to alleviate backlog of assessments of federal oil and gas leases in Wyoming and Nebraska. Assessments required geologic evaluation of oil and gas potential for lands in Powder River, Wind River, Big Horn and Denver-Julesburg Basins. Determination of "known geologic structures (KGSs)" per Secretarial Order for categorizing of federal oil and gas minerals into competitive and non-competitive status. Deposed as expert witness and provide expert summaries and affidavits for cases before the Interior Board of Land Appeals (example: Case No. IBLA 84-798 for protest of KGS delineation).

Phillip R. Goetze

June 1982 to September 1983: Field Geologist

United States Bureau of Mines, Department of Interior, Lakewood, Colorado

Assisted primary authors with field inventory and evaluation of mineral occurrences in 15 wilderness areas in Colorado (Central Mineralized Region), southern Wyoming, and eastern Utah. Field work included field mapping and sampling of abandoned mines and mineral occurrences within these areas and adjacent areas with potential impacts on wilderness designation.

July 1979 to January 1982: Geologist

United States Geological Survey, Department of Interior, Casper, Wyoming and Lakewood, Colorado

First two years exclusively mapping, drilling, and classifying coal resources in south central Wyoming. Detailed for two years to special team for preparation of impact statement: one of four principle authors for the Cache Creek-Bear Thrust Environmental Impact Statement which documented effects of two proposed oil and gas wells in designated wilderness area near Jackson, Wyoming. Deposed as expert witness in federal court. Final year primarily responsible for assessments of federal oil and gas leases for lands in Wyoming and Nebraska.

July 1977 to July 1979: District Geologist

Bureau of Land Management, Department of Interior, Socorro District Office, Socorro, New Mexico

Responsible for District minerals program for federal lands in west central portion of state. Assisted in environmental reports for land exchanges, classification of saleable mineral sites, mining claim validity determinations, inspection of surface reclamation for mineral extractions, inspection of oil exploration and geothermal gradient wells, and assessments for location of water wells in support of grazing projects.

EDUCATION:

New Mexico Institute of Mining and Technology, Socorro, New Mexico Bachelor of Science in Geology, 1977

Additional Courses: EPA course requirements for Asbestos Inspector (10 years as active inspector); completion of state program for Licensed Contractor (NM; GS-29); EPA course requirements for Lead-Based Paint Risk Assessor (EPA Regions VI and IX; two years as active inspector); GSI Course *Application of Ground Penetrating Radar*, NGWA Course *Monitoring Natural Attenuation of Contaminants*.

PROFESSIONAL MEMBERSHIPS, LICENSES, OR CERTIFICATIONS:

American Association of Petroleum Geologists, Member No. 51,310

American Institute of Professional Geologist, Certified Professional Geologist No. 6,657

Alliance of Hazardous Materials Professionals, CHMM No. 11,401

ASTM International, Member No. 1,314,118 (Voting Member); Committees D18 (Soil and Rock) and E50 (Environmental Assessment, Risk Management and Corrective Action)

OSHA 40HR and 8HR Refresher Hazardous Waste Operations and Emergency Response (Current)

OSHA Hazardous Waste Operations and Emergency Response Manager/Supervisor (Current)

State of Alaska, Licensed Professional Geologist No. 514

State of Arizona, Registered Professional Geologist No. 40,812

State of Nevada, Certified Environmental Manager No. 2,218

State of Texas, Licensed Professional Geologist No. 2,278