

**STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION**

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)
In the Matter of:)
PROPOSED AMENDMENT)
TO 20.6.6 NMAC (Dairy Rule))
_____)

No. WQCC 13-08 (R)

DIRECT TESTIMONY OF MARK TURNBOUGH, Ph.D.

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME.

A. My name is Mark Turnbough.

Q. WHAT IS YOUR OCCUPATION?

A. I am an environmental consultant.

Q. PLEASE DESCRIBE THE DISCIPLINARY AREAS IN WHICH YOU PROVIDE CONSULTING SERVICES.

Historically a large part of my work can be characterized as regulatory permitting and compliance, environmental assessment, statistical analysis, regulatory impact assessment, policy analysis, water resource development and multi-disciplinary project management. (Turnbough – 4 contains my resume.)

Q. HOW LONG HAVE YOU WORKED AS AN ENVIRONMENTAL CONSULTANT?

A. Over thirty years.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS AS WELL AS YOUR CONSULTING EXPERIENCE.

A. I received a PhD from Texas Tech University in 1985 in Systems Theory and Environmental Policy. My dissertation focused on environmental resources

management. I have undergraduate and masters degrees from Texas Tech in Anthropology with an emphasis in Quantitative Analysis.

As a consultant, I have had significant participation in well over 100 major projects. During the past 34 years, I have participated in the preparation of over 100 technical studies and reports for clients in the public and private sectors. From 2006 to the present, I have been retained as an environmental consultant by Las Uvas Dairies (Dairies). In that capacity, I have coordinated the permitting of the Las Uvas discharge plans for the Dairies and have provided consulting services regarding compliance. I have coordinated the re-permitting of these plans under WQCC discharge permit regulations which are now codified as 20.6.2.3106 NMAC, and have coordinated the subsequent re-permitting pending under the Supplemental Permitting Requirements for Dairy Facilities Regulations, 20.6.6 NMAC (Dairy Rule).

In addition to the permitting efforts for the Dairies, I have had major roles in the acquisition of WQCC Discharge Permits for Dona Ana County (Septage Facilities), Camino Real Landfill (Sludge Land Application), US Department of Energy Waste Isolation Pilot Plant (Storm Water Management Lagoons), and National Enrichment Facility (Surface Water Management Lagoons). I have also coordinated the successful completion and approval of an application on behalf of Lea County/International Isotopes for a "Voluntary Remediation Program – Covenant Not to Sue" for a new project located on property characterized by groundwater contaminated by an up-gradient party. Currently, I am managing the Waste Control Specialists Discharge Permit application pending approval by the Ground Water Protection Bureau of the New Mexico Environment Department.

I am also a regulatory and environmental consultant to Los Alamos National Security (LANS), the operator of Los Alamos National Laboratory, on strategies for cleaning-up the legacy waste produced during the Cold War years of operation. That scope of work includes remediation of the Hexavalent Chromium plume in the groundwater near the boundary of the Lab and the San Ildefonso Pueblo.

In addition, from 2000 to 2009, I was retained by the Edwards Aquifer Authority (Authority) in San Antonio, Texas, to conduct Regulatory Impact Assessments of groundwater management regulations promulgated by the Authority. During that time, I provided section by section assessments of eight major rulemaking efforts by the Authority.

Other impact assessments include several electric transmission line projects. From 2004 to the present, I have been retained as an expert witness to evaluate the environmental impacts of proposed electric transmission line projects in thirteen cases including one that has not been filed at the time this testimony was prepared. The Texas PUC Docket Nos. include 29684, 37448, 38140, 38230, 38324, 38597, 38877, 40319, 40728, 41756, 41718, and 42087.

In January of 2012, I was retained by the New Mexico State Land Commission as a consultant and an expert witness for the Commission in a contamination remediation and ranchland restoration case (Ray Powell, Commissioner of Public Lands of the State of New Mexico vs. Equity Investments Corp, et al (No. D-101-CV-2011-01285, First Judicial District Court, State of New Mexico). I was also retained by the Commissioner to monitor the Oil Conservation Commission Pit Rule Hearings, and to assist SLO General Counsel in evaluating industry proposals to amend the Pit Rule.

I am also a senior consultant to the Environmental Management Division of the US Department of Energy to troubleshoot environmental and regulatory problems at the 27 sites in the Weapons Complex. In that context, I am actively involved in the Waste Isolation Pilot Plant recovery effort and the Consent Order clean-up at Los Alamos National Laboratory.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

- A. The purpose of my testimony is to provide a limited regulatory impact assessment (RIA) of selected provisions in the existing Dairy Rule. The assessment uses a simplified framework in order to illustrate fundamental issues that are inherent in a highly prescriptive rule. The purpose of approaching the analysis from this perspective is to evaluate the potential need for amendments to the Dairy Rule. Selected examples of problems inherent in this type of rule will be illustrated with descriptive statistics and fundamental regulatory logic.

Regardless of the initial intent of parties in the development of the existing rule, the unintended consequences of the end result have negative effects on the regulated entities, the regulator, and the environment. This testimony is consistent with and supportive of more specific technical testimony by other experts retained by DIGCE. The framework applied to this analysis is roughly similar to the approach I used in much more detailed RIAs of proposed rules developed by the Edwards Aquifer Authority. Those rules had some basic similarities to the Dairy Rule in that they focused on the management and protection of groundwater resources which were used in part by farmers for large scale irrigated agriculture. The “goodness of fit” in this approach with regard to a rule for dairies is limited by the fact that farmers within the jurisdiction of the Authority did not construct or use large wastewater impoundments as part of their operations. Nonetheless there is at least a partial nexus between the use of dairy wastewater as a component of the total amount of water used for irrigation, and the use of Edwards Aquifer water for irrigation and application of large quantities of agricultural chemicals on row crops.

Q. WAS YOUR TESTIMONY AND SUPPORTING DOCUMENTATION PREPARED BY YOU OR UNDER YOUR SUPERVISION?

- A. Yes.

Q. IS THE INFORMATION CONTAINED IN YOUR TESTIMONY AND THE SUPPORTING DOCUMENTATION TRUE AND CORRECT TO THE BEST OF YOUR KNOWLEDGE AND BELIEF?

A. Yes.

III. EVALUATION OF THE DAIRY RULE

Q. WHY DID YOU PREPARE AN EVALUATION OF THE DAIRY RULE?

A. Gordon Environmental Inc. retained me under a contract with DIGCE to work with its attorneys from Gallagher and Kennedy to review and if necessary propose changes to the Dairy Rule.

Q. HAVE YOU WORKED WITH GORDON ENVIRONMENTAL ON OTHER PROJECTS?

A. Yes. I have worked with Keith Gordon, the principal engineer and owner of Gordon Environmental Inc., since 1991. During that time, we have collaborated on the permitting of approximately 75 percent of the solid waste disposal capacity in the State of New Mexico. Each of the permits that were approved during that time involved the design and construction of liner systems for the disposal cells that meet the performance standards required by USEPA under 40 CFR Part 258, and the development of groundwater monitoring systems to measure the long term efficacy of those approved disposal systems. It is worth noting here that some of those monitoring systems did not include the construction of standard monitoring wells.

Q. PLEASE DESCRIBE THE STEPS TAKEN TO PREPARE THE EVALUATION.

A. The following steps were taken:

- The first task was to review applicable statutory and regulatory requirements that were in place prior to the adoption of the Dairy Rule.
- The second task was to review testimony in support of and in opposition to the Dairy Rule.
- The third task was to review the Dairy Rule.

- The fourth task was to review data collected from Final and Draft Permits issued under the Dairy Rule.
- Finally, given the information I had gathered from the preceding steps, I evaluated the potential impact on the regulated entities, the Groundwater Protection Bureau, and the environment.

Q. PLEASE DESCRIBE THE BASIS OF AND METHODOLOGY DEVELOPED FOR CONDUCTING THE EVALUATION OF THE DAIRY RULE.

- A. As indicated above, the primary basis for evaluating the Dairy Rule in this testimony is the application of an abbreviated approach utilized in regulatory impact assessments (RIA) of rules for the management and protection of groundwater by the Edwards Aquifer Authority in south-central Texas. That approach focused on the likely outcomes (i.e., impacts) on the regulated entities, the regulator, the public and the environment.

The primary difference between that approach and the one applied here is that in a typical RIA, an attempt is made to forecast the effects of a proposed rule. Consequently, there is a far more extensive methodology developed to predict the outcome of the rule before it is implemented. In this case, the rule has already been implemented, and there are 29 Final permits and 98 Draft Permits in the record that exhibit the effects of the requirements in the Dairy Rule. The two largest concerns in the Dairy Rule are liner design and construction requirements (20.6.6.17 NMAC); and monitoring well system configurations (20.6.6.23 NMAC) and implementation. Both of those issues have impacts that can be identified and in some cases can be measured with regard to the three of the four elements identified above; regulated entities, the regulator, and the environment. Impacts on the public in this case can be correlated with increased cost of operations that may translate into increased costs for dairy products, and negative effects on dairy employment in New Mexico.

However, the focus in this analysis is on changes to monitoring well requirements that appear in the Final permits issued and the Draft Permits pending under the Dairy Rule.

The basis of the analysis in my testimony regarding monitoring well system changes brought about by the Dairy Rule is the review of data collected from 127 Final/Draft Permits. It is important to note here that the Permits do not constitute a statistically representative sample of a larger population. Instead, they are the entire population of Permits issued and pending to date. Inspection of the data indicates that there are specific effects on the number of monitoring wells that can be attributed primarily to prescriptive changes in the regulatory framework. That causal linkage is likely to be valid, given the fact that nothing else materially changed except the rule.

IV. FINDINGS

Q. PLEASE SUMMARIZE YOUR FINDINGS REGARDING MONITORING WELL REQUIREMENTS FOR DRAFT PERMITS UNDER THE DAIRY RULE.

IMPACTS on REGULATED ENTITIES

- A. As indicated in the previous section, one way to understand the impact of a new rule is to compare the effects of specific requirements when applied to the same facilities with approved environmental infrastructure when there is no appreciable change in operational profiles from one permitting cycle to the next. In this case, requirements for additional monitoring wells for facilities that had monitoring well configurations approved under the previous regulatory framework show a substantial change for both Final and pending Draft Permits.

Final Permits

For example, for the 29 facilities with Final Permits, there were a total of 128 monitoring wells required under the previous regulatory framework (20.6.2.3107 NMAC). (Refer to Table MT1-Final Permits Issued Under Dairy Rule in Turnbough - 1). Under the prescriptive requirements of the new Dairy Rule, the number of monitoring wells increased to a total of 242. That increase takes into account the fact that 53 existing wells were required to be closed out (i.e., to be plugged and decommissioned), and most significantly, the requirement to construct 167 new wells. To reiterate, the net effect of the requirements under the rule is this: the dairies in the Final Permit subset saw an

increase from 128 monitoring wells approved in the previous permitting cycle to 242 required in the first permitting cycle under the Dairy Rule. That is an increase of 89 percent. Keep in mind that the only thing that changed is the implementation of a new framework that is based entirely on a prescriptive set of more stringent requirements for existing facilities operating under previously approved permits.

Under the previous regulatory framework, the average number of monitoring wells required for the 29 facilities was 4.4. The standard deviation for the mean is 3.67, which indicates a fairly wide spread for the number of monitoring wells required. Under the new rule, the average number of monitoring wells required increases to 8.3 per facility. The standard deviation for that mean is 4.14, which indicates a slightly narrower spread for the total number of wells required per facility. Although the medians are 3 and 4, respectively and the modes are 4 and 7, respectively, in both instances the standard deviations indicate that the means for total number of wells are influenced by relatively extreme values for the total required under both the previous rule (minimum of 0, maximum of 21 wells), and the more prescriptive Dairy Rule (minimum of 3, maximum of 22). Inspection of Table MT1 indicates that under the requirements of the new Dairy Rule, all 29 facilities that have received a Final Permit experienced an increase in the number of new wells required. Thirteen (13) of the 29 facilities, 45 percent, experienced a doubling or more of the number of monitoring wells required. In this subset, one dairy was operating under the old framework with no monitoring wells. Under the Dairy Rule, that facility is required to construct seven monitoring wells. The largest increase in new wells required for a single dairy was 14.

Draft Permits

Analysis of the pending Draft Permits issued under the Dairy Rule indicates a comparable pattern for increases in the number of new monitoring wells. For example, for the 98 facilities with Draft Permits, there were a total of 351 monitoring wells required under the previous regulatory framework (20.6.2.3107 NMAC). (Refer to Table MT2-Draft Permits Issued Under Dairy Rule in Turnbough - 2). Under the requirements of the new Dairy Rule, the total number of monitoring wells increased to 744. As was the

case with the Final Permits, the Draft Permit increase takes into account the fact that several existing wells were required to be closed out (i.e., to be plugged and decommissioned). In this subset 160 existing wells were required to be closed out. The most significant change, however, was the requirement to construct an additional 553 new wells.

To reiterate the changes reflected by these extraordinary numbers, the net effect of the requirements under the Dairy Rule is that the dairies in the Draft Permit subset experienced an increase from 351 monitoring wells required in the previous permitting cycle to a total of 744, or an increase of approximately 112 percent (including the construction of the 553 new wells). Again, keep in mind that the only thing that has changed is issuance of a new framework that is based entirely on a prescriptive set of more stringent requirements for existing facilities operating under previously approved permits.

Under the previous regulatory framework, the average number of monitoring wells required for the 98 facilities was 3.6. The standard deviation for the mean is 2.07, which indicates a fairly wide spread for the number of monitoring wells required. Under the new rule, the average number of monitoring wells required increases from 3.6 to 7.6 per facility. The standard deviation for that mean is 3.11, which indicates slightly less dispersion about a larger mean for the number of wells required per facility. Inspection of Table MT2 indicates that under the requirements of the new Dairy Rule, 96 of 98 facilities that have received a Draft Permit were required to install new wells. Sixty one (61), 62 percent, of the 98 facilities experienced a doubling or more of the total number of monitoring wells required. In this subset four dairies were operating under the old framework with no monitoring wells. Under the Dairy Rule, three of those facilities are required to construct seven monitoring wells each and the fourth is required to construct 5. Under the previous framework, the maximum number of wells required for any facility in this set was 12 monitoring wells. Under the Dairy Rule, the largest number of monitoring wells required of a facility in this set is 20. The largest increase in the number of new wells required for a single dairy is 16.

Combined Draft and Final Permits

In order to provide a sense of the cumulative magnitude of the impact of the Dairy Rule on Final and Draft Permits for monitoring well requirements, Tables MT1 and MT2 are combined. (Refer to MT3-Combined Draft and Final Permits Issued Under Dairy Rule in Turnbough – 3). For the 127 facilities with Draft or Final Permits (Permits) issued under the Dairy Rule, there were a total of 479 monitoring wells required under the previous regulatory framework (20.6.2.3107 NMAC). Under the more stringent requirements of the Dairy Rule, the number of monitoring wells increased to a total of 986. That increase takes into account the fact that 213 existing wells were required to be closed out (i.e., to be plugged and decommissioned), and the construction of 720 new wells was required. That is an increase of approximately 106 percent for the total number of wells required for the combined set. For the third time, keep in mind that the only thing that has changed is a new framework that is based entirely on a prescriptive set of more stringent requirements for existing facilities operating under previously approved permits. It should be noted here that new permits and modifications of existing permits will be subject to the same requirements.

Under the previous regulatory framework, the average number of monitoring wells required of the 127 facilities is 3.8. The standard deviation for the mean is 2.53, which indicates a fairly wide spread for the number of monitoring wells required. Under the new rule, the average number of monitoring wells required per facility increases from 3.8 to 7.8 per facility. The standard deviation for that mean is 3.4, which indicates a slightly narrower spread for the number of wells required per facility. Inspection of Table MT3 indicates that under the requirements of the Dairy Rule, 125 of the 127 facilities that have received a Draft or Final Permit were required to construct new wells. Seventy four (74) of the 127 facilities (i.e., 58 percent) experienced a doubling or more of the total number of monitoring wells required.

Cost of Compliance

Based on recent experience in constructing monitoring wells in New Mexico, the cost of installing compliant monitoring wells is approximately \$150 per linear foot. If one assumes an average depth of 100 feet for monitoring wells, the cost for each well is \$15,000. Under the scenario created by the Dairy Rule for the total number of Permits reviewed in the combined set, approximately \$10,800,000 or an average cost per facility of \$85,039 for new wells has been levied on existing facilities which were operating in compliance with their monitoring well requirements under the previous regulatory regime. An additional cost associated with this process is the requirement to plug and decommission 213 existing wells. Costs for plugging and decommissioning wells range from \$15.00 to \$26.00 per foot. Assuming \$20.00 per foot and our hypothetical average depth of 100 feet, it will cost approximately \$2,000 to plug and decommission a well. It follows that it would cost approximately \$426,000 to plug and decommission 213 wells. There is also a significant cost increase associated with sampling and analysis of the water from the wells on a quarterly basis. Based on the sampling, analysis and reporting requirements under discharge permits issued before the dairy rule was adopted, it costs approximately \$3,000 per well per quarter. At \$12,000 per year per well under the previous regulatory framework, it cost the dairy industry approximately \$5,748,000 per year to sample, analyze and report ground water data to NMED annually. Under the Dairy Rule the cumulative annual cost will increase to a total of approximately \$11,832,000. That represents an increase in annual monitoring costs of 106 percent. It should be noted here that the cost of sampling, analysis and reporting has not changed under the requirements of the Dairy Rule. The difference is entirely attributable to the increase in the total number of new wells required. Another way to look at those numbers is to look at the average cost per dairy. Under the previous framework it cost an average of approximately \$45,000 per year to collect, analyze and report ground water data to NMED. Under the Dairy Rule, it will cost an average of approximately \$93,165 per facility per year.

IMPACTS ON REGULATORS

In general, the impact of the transition from an essentially site-specific regulatory framework under the WQCC regulations to a prescriptive framework under the Dairy Rule in a very short period of time has had a substantial impact on the ability of the Groundwater Bureau to process applications in a timely and technically thorough manner. The combined effects of having to quickly process a large number of applications have resulted in a high attrition rate on the staff at the Bureau. There is simply more work to do than there are people to get it done and that will continue to be the case as the applications are processed and appealed. The consequence of these circumstances leads to an understandable and ostensibly rational approach from an organizational management perspective, to comply with administrative timelines by simply imposing conservative requirements under a prescriptive rule in order to stay on schedule.

IMPACTS ON THE ENVIRONMENT

With regard to the impact on the environment, there is no compelling evidence in the administrative record that produced the Dairy Rule to indicate that the increased stringency of the prescriptive requirements drafted into the rule will have any measurable positive effect on the environment. It is apparent that the proponents of increasing the number of monitoring wells under the Dairy Rule believe as an “article of faith” that the additional wells will reveal heretofore unknown information. That seems to be especially true with regard to prescriptive requirements in the Dairy Rule for placement of monitoring wells adjacent to so-called “Land Application Areas” (i.e., one well down-gradient, within 50 feet of each 40 acre flood irrigated field and within 50 feet of each 160 acre sprinkler or drip irrigated field – or portion). What is the scientific basis of these extraordinary requirements for monitoring essentially ordinary irrigation practices? Why not 63 acres for flood irrigation and 174 acres for sprinkler or drip irrigation or well placement within 42.5 feet of the irrigated tract? There is no scientific basis for those values either.

According to former New Mexico Territorial Governor Lew Wallace, “Calculations based on experience gained elsewhere inevitably fail in New Mexico.” That observation

notwithstanding, experience gained elsewhere raises questions about the basis of the assumptions that led to unrealistically stringent and prescriptive requirements in the Dairy Rule. The validity of the rule is undermined on the face of it by the notion that an arbitrary increase in the number of monitoring wells for a facility without fully understanding the geo-hydrologic regime for that specific site will somehow add relevant knowledge to the regulatory database. That is no more scientifically defensible than the use of a forked stick by a water well “witcher” to find water.

My skepticism is very high with regard to the validity of the prescriptive measures articulated in the Dairy Rule. They simply do not have the benefit of scientific information for their foundation. Protection of the environment, especially ground water resources, requires systematic site-specific information which can be used to structure a locally relevant ground water monitoring system. The number and the location of the monitoring wells cannot be pre-ordained from a distance with any level of confidence that they will measure what is intended.

V. CONCLUSIONS

Q. WHAT CONCLUSIONS HAVE YOU DRAWN FROM YOUR ASSESSMENT OF THE DAIRY RULE?

A. Regardless of the intent that was factored into the development of a highly prescriptive regulatory framework for the Dairy Rule, the outcome in some important respects is a rule that cannot be shown to enhance the protection of the environment, is burdensome to implement for the regulator, and is expensive and difficult to retrofit into existing dairy operations. Viable regulatory frameworks should be flexible and focus on performance standards. Site-specific characteristics are the most important variables to be considered in the evaluation of an application for new or existing operations that ultimately need to protect groundwater resources. Meeting prescriptive standards in a regulatory checklist without regard for site-specific characteristics will not necessarily correlate with environmental protection. Prescriptive requirements without some nexus to an empirical understanding of the site’s geohydrologic regime are an inefficient use of scarce

resources. Moreover, it leads to attempts by the applicants to appeal what appear to be arbitrary requirements.

In the case of the Dairy Rule, there is a variance procedure (20.6.6.18 NMAC) that will likely become clogged with literally tens of dozens of facilities requesting relief. Essentially the permitting process under the new Dairy Rule will evolve into at least two major administrative steps; 1) the first being the initial application for renewal, modification, or request for a new facility, and 2) the second a request for a variance hearing before the WQCC to rollback the most onerous prescriptive requirements issued in the Permit. The discharge plan approval process will be so heavily burdened that it will not be able to manage the variance petitions in a timely fashion. That is probably the understatement of this entire testimony. It is important that many of these provisions be re-calibrated with flexibility based on site-specific considerations. The no-action alternative will likely lead to a set of facts described herein which nothing gets done. Facilities will not be able to acquire workable permits, and without those permits, many of them will not be able to get financing for continued operations and may go out of business or leave the state. The primary cause of that scenario is the prescriptive content of the Dairy Rule.

VI. RECOMMENDATIONS

Q. WHAT IS YOUR RECOMMENDATION WITH REGARD TO THE NEW DAIRY RULE?

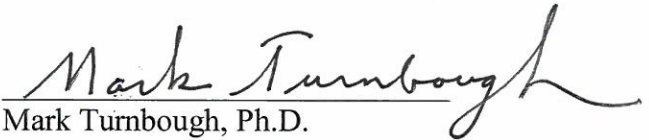
A. My recommendations with regard to amendments to the Dairy Rule include, at a minimum, changes to the ground water monitoring sections as proposed by Charles Fiedler, P.E., in his testimony and acceptance of changes proposed by Keith Gordon, P.E., in his testimony regarding the design and construction of liner systems for impoundments. There are other changes proposed by DIGCE supported by additional testimony that I think improve the utility of the rule. Moreover, I think it may be necessary to add language to the Dairy Rule that assures the protection of valid existing liner systems, monitoring well configurations, and other operational infrastructure that were approved under previous permits, renewals or permit modifications. Those aspects

of previous permit approvals should not be invalidated by the implementation of a subsequent rule that arbitrarily increases standards in a prescriptive framework.

Finally, it may be possible to mitigate the prescriptive tone of the new Dairy Rule by allowing applicants to provide reasoned arguments based on site-specific characteristics and supported by either USDA guidance or scientific or engineering calculations that an alternative design or method of operation may be more appropriate for the existing or proposed dairy location. This alternative demonstration should be allowed in lieu of prescriptive requirements in any part of the Dairy Rule where it can be shown to be protective of the environment.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.


Mark Turnbough, Ph.D.

MT1 - Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-791	3V Dairy	MW-2, MW-5, MW-6, MW-7, MW-1(closeout), MW-4 (closeout)	6	2	MW-3A, MW-10, MW-11, MW-12, MW-1A, MW-4A, MW-13, MW-14	8	12
DP#-1003	Three Amigos Dairy	MW-1 (closeout), MW-3 (closeout), MW-2A, MW-4, MW-5	5	2	MW-1A, MW-7, MW-8, MW-9, MW-10, MW-11, MW-3A	7	10
DP#-880	W-Diamond Dairy	MW-5 (closeout), MW-6, MW-7	3	1	MW-1A, MW-5A, MW-8	3	5
DP#-1004	Willard Dairy	MW-1B, MW-2A, MW-3 (closeout), MW-4 (closeout)	4	2	MW-5, MW-6, MW-7, MW-8, MW-9	5	7
DP#-1176	Jarratt Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-3A, MW-4, MW-5, MW-6, MW-7	5	5
DP#-921	Valley View Dairy	MW-1, MW-2A, MW-5, MW-6, MW-3 (closeout), MW-2 (closeout), MW-4 (closeout)	7	3	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16	10	14
DP#-537	Van Dam Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4 (closeout)	4	3	MW-9, MW-4, MW-5, MW-6, MW-7, MW-8	6	7
DP#-885	Jersey Gold Dairy	MW- EAST (closeout), MW- WEST (closeout)	2	2	MW-2, MW-3, MW-4, MW-1	4	4
DP#-707	Vaz Dairy	MW-3, MW-4, MW-5, (Closure: MW-2, MW-3A)	5	2	MW-7, MW-8, MW-9, MW-6	4	7
DP#-804	Sunshine Dairy	(Closure: MW-1, MW-2, MW-3, MW-4)	4	4	MW-2A, MW-3A, MW-4A, MW-5, MW-6, MW-1A	6	6

MT1 - Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1350	Loma Parada Dairy	MW-1, MW-2, MW-3	3	0	MW-7, MW-4, MW-5, MW-6	4	7
DP#-299	North Portales Dairy, LLC	(Closure: MW-4), MW-3, MW-1, MW-5	4	1	MW-5A, MW-7, MW-8, MW-6	4	7
DP#-208	Oasis Dairy	(Closure: MW01, MW-3), MW-2	3	2	MW-13, MW-14, MW-15, MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-1A	14	15
DP#-257	Sunset Dairy	MW-257-3, MW-257-1, MW-257-2, MW-257/260-1	4	0	MW-257-4, MW-257-5, MW-257-6, MW-257-7, MW-257-8, MW-257-9, MW-257-10	7	11
DP#-765	J&M Dairy	MW-8L, MW-9U, MW-9L, MW-10L, MW-L2, MW-11L, MW-12U, MW-12L, MW-13L, MW-14, MW-1, MW-8U, MW-7, MW-2, MW-3, MW-10U, MW-11U, MW-13U, (Closure: MW-4, MW-5, MW-6)	21	3	MW-15, MW-16, MW-17, MW-18	4	22
DP#-1022	Southern Draw Dairy	NONE	0	0	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7	7	7

MT1 - Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1197	Legend Dairy	MW-1 (closeout), MW-2 (closeout)	2	2	MW-1A, MW-2A, MW-3A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13	13	13
DP#-1268	Dixieland Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-4, MW-5, MW-6, MW-7, MW-8	5	5
DP#-911	Chalk Hill Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-4, MW-5, MW-6, MW-7	4	4
DP#-1312	Milk Flow Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4	4	2	MW-2A, MW-3A, MW-5, MW-6, MW-7	5	7
DP#-162	Yorktown Dairy	MW-2A, MW-4, MW-6, YT MW-5, YT MW-7, MW-1 (closeout), MW-W (closeout), MW-SE (closeout), MW-NE (closeout), MW-3R (closeout)	10	5	MW-1A (replaces MW-1), MW-3A, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13	8	13
DP#-606	Dexter Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4 (closeout), MW-5	5	3	MW-6, MW-7, MW-8, MW-9, MW-10	5	7
DP#-738	El Visto Dairy 2	MW-1A, MW-2 (closeout), MW-3, MW-4 (closeout), MW-4A	5	2	MW-5, MW-7, MW-8, MW-9	4	7

MT1 - Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-70	Mountain View Dairy	MW-70/86/340-1, MW-70-1, MW-70-2, MW-70-3	4	0	MW-4, MW-5, MW-6	3	7
DP#-1203	Beaty Dairy	MW-1 (closeout), MW-2 (closeout), MW-3, MW-4	4	2	MW-5	1	3
DP#-1331	GH Dairy Deming	MW-1, MW-2, MW-3 (closeout)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12	9	11
DP#-346	Abarca Dairy	MW-1, MW-2	2	0	MW-3, MW-4	2	4
DP#-380	Barrera Dairy	B1 MW-1, B1 MW-2	2	0	B1 MW-1, B1 MW-3, B1 MW-4, B1 MW-5, B1 MW-6, B1 MW-7,	6	8
DP#-1181	Rasband Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW-6, MW-7	4	7
			Totals:	128		167	242
			Mean:	4.4		5.8	8.3
			Median:	4		5	7
			Mode:	3		4	7
			Maximum:	21		14	22
			Minimum:	0		1	3
			Standard Deviation:	3.67		2.95	4.14

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP# 163	Pirtle Farms Dairy	MW-1A, MW-4, MW-6A, MW-7, MW-5 (closeout)	5	1	NONE	0	4
DP #164	Pirtle and Sons #2	MW-7, MW-8, MW-4 (closeout), MW5A (closeout), MW-6 (closeout), MW-1 (closeout)	6	4	MW-4A, MW-11, MW-12, MW-6A, MW-5B, MW-9, MW-10, MW-1A	8	10
DP#-207	Nature's Dairy	MW-2, MW-4, MW-1 (closeout)	3	1	MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-1A	8	10
DP#-635	Woodcrest Dairy	MW-1, MW-2, MW-3R, MW-4	4	0	MW-6, MW-7, MW-8, MW-9, MW-10	5	9
DP#-677	Cheyenne Dairies I&III	MW-1, MW-2, MW-3, MW-4 MW-6, MW-7, MW-5 (closeout)	7	1	MW-37, MW-38, MW-39, MW-40, MW-41, MW-42	6	12
DP#-717	Epicenter Dairy	MW-1A, MW-4, MW-3A, MW-2A (closeout)	4	1	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	10
DP#-718	DeGroot Dairy	MW-1, MW-2A, MW-3, MW-4, MW-5, MW-6 (closeout), MW-7 (closeout), MW-8 (closeout)	8	3	MW-9, MW-10, MW-11, MW-12	4	9
DP#-764	Arroyo Dairy	MW-1A, MW-5, MW-6. (Closeout: MW-3, MW-4)	5	2	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-3R	7	10
DP#-776	Southwind Dairy	MW-2, MW-5	2	0	MW-6, MW-7, MW-3A, MW-4A, MW-8, MW-1B	6	8
DP#-1131	Par 5 Dairy	MW-2, MW-3, MW-7, (Closeout: MW-1, MW-5)	5	2	MW-8 MW-9, MW-5A, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15	9	12

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1200	Borba Farms	MW-2, MW-3, MW-4, MW-1 (closeout)	4	1	MW-1A, MW-5, MW-6	3	6
DP#-956	Day Star Dairy	MW-4, (closeout: MW-1, MW-2)	3	2	MW-1A, MW-2A, MW-5, MW-6	4	5
DP#-1163	North Point Dairy	MW-3, MW-4	2	0	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-1A	8	10
DP#-1199	Palla Inc. Dairy	MW-1 (closeout)	1	1	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	10	10
DP#-1277	El Dorado Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW6, MW7	4	7
DP#-1455	Route 77 Dairy	MW-2R (Closeout: MW-1R, MW-3)	3	2	MW-4, MW-5, MW6	3	4
DP#-1474	F.B. Ranch, LLC	MW-2, MW-3	2	0	MW-1A, MW-4, MW-5, MW-6, MW-7	5	7
DP#-170	Sun Valley Dairy	MW-1 (closeout), MW-2, MW-3, MW-4 (closeout), MW-5, MW-6A	6	2	MW-20, MW-21	2	6
DP#-259	Rockview Dairy	MW-4R (closeout), MW-5R, MW-6R, MW-7R	4	1	MW-11R, MW-12R	2	5
DP#- 762	High Lonesome Dairy	MW-4HL, MW-5HL (closeout), MW-6HL (closeout), MW7HL (closeout), MW-8HL (closeout)	5	4	MW-5A-HL, MW-MW-6A-HL, MW-MW-8A-HL, MW-11HL	4	5
DP#-909	Tee Vee Dairy	(Closeout: MW-2, MW3) MW-4, MW5	4	2	MW-3A, MW-6, MW-7, MW-8, MW-9	5	7

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1559	Rocky Top Dairy	MW-1, MW-2 (closeout), MW-3	3	1	MW-2A, MW-4, MW-5, MW-6, MW-7	5	7
DP#-1025	Landmark Dairy	MW-1 (closeout), MW2 (closeout)	2	2	MW-1A, MW-3A, MW-4, MW-5, MW-6	5	5
DP#-1135	Bos Dairy, LLC-South	MW-1A, MW-2, MW-3A	3	0	MW-4, MW-5, MW-6	3	6
DP#-667	H & R Westra Dairy	(Closeout: MW-1, MW-2, MW-3) MW-4	4	3	MW-5, MW-6	2	3
DP#-753	Brouwer Dairy	MW-1, (Closeout: MW-2A, MW-3, MW4)	4	3	MW-2B, MW-3A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9	8	9
DP#-898	Bonestroo Dairy, LLC.	(Closeout: MW-1, MW-2, MW-4, MW-5, MW-6)	5	5	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19	13	13
DP#-932	Midway Dairy	MW-2 (closeout), MW-4	2	1	MW-1A, W-2A, MW-3A, MW-5, MW-6	5	6
DP#-1001	James Idsinga & Son Dairy	(closeout: MW-1, MW-2)	2	2	MW-1R, MW-2R, MW-3R, MW-4, MW-5	5	5
DP#-1250	Sky Country Farms	MW-1, MW-2,	2	0	MW-3A, MW-4, MW5, MW6, MW-7, MW-8, MW-9, MW-10	8	10
DP#-1257	Double K Dairy	N/A	0	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	7	7
DP#-1286	Greenfield Park Dairy	MW-1 (closeout), MW-2, MW-3 (closeout)	3	2	MW-1A, MW-3A, MW-4, MW-5, MW-6	5	6
DP#-1287	Mathews Dairy	MW-2, MW-3(closeout)	2	1	MW-1A, MW-4, MW-3A	3	4

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1315	J-Lu Dairy	MW-2, MW-4, (Closeout: MW-1, MW-3)	4	2	MW-1A, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9	7	9
DP#-1377	Grande Vida Dairy	MW-1, (Closeout: MW-2, MW-3)	3	2	MW-2A, MW-3A, MW-4	3	4
DP#-546	Caballo Dairy	MW-1 (Closeout) MW-2, MW-3)	3	2	MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW11, MW-12, MW-13, MW-14	12	13
DP#-1194	Handley Dairy	Closeout: MW-A, MW-B, MW-C)	3	3	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7	7	7
DP#-1477	HAW Farms	MW-1, MW-2	2	0	MW-4	1	3
DP#-1037	Edeal Dairy	MW-1 (closeout), MW-2, MW-3 (closeout), MW-4	4	2	MW-1A, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	9	11
DP#-480	Double Aught Dairy	487-1A, 487-4 (Closeout: 487-6, 480-1, 480-2, 480-3, 480-4, 487-5)	8	7	480-2R, 480-6, 487-7, 480-3R, 487-3R, 480-4R, 487-5R, 480-1R, 487-8	9	10
DP#-727	Shawnee Dairy	MW-3, (Closeout: MW-1, MW-2, MW-4)	4	3	MW-1A, MW-5, MW-6, MW-4A, MW-7, MW-8, MW-9, MW-10, MW-11, MW-2A	10	11
DP#-797	Cheyenne II Dairy	MW-2, (Closeout: MW-1, MW-3, MW-4)	4	3	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-4A,	9	10

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1439	Secondwind Dairy	MW-1	1	0	MW-2, MW-3, MW-5, MW-4	4	5
DP#-878	Rajen Dairy #2	MW-1 (closeout)	1	1	MW-1A, MW-3, MW-2A, MW-4, MW-5, MW-6, MW-7, MW-8,	8	8
DP#-934	South Slope Dairy	(Closeout: MW-1, MW-3) MW-2)	3	2	MW-10, MW-2A, MW-4, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-1A	10	11
DP#-1379	Cross Country Dairy	MW-2 (closeout)	1	1	MW-2A, MW-3, MW-4, MW-1A,	4	4
DP#-1413	N&N Dairy	(Closeout: MW-1, MW-2, MW-3, MW-4A)	4	4	MW-2A, MW-5, MW-3A, MW-4A, MW-6, MW-7, MW-8, MW-1A	8	8
DP#-461	Beestra Family Dairy	MW-2, (Closeout: MW-3, MW-1)	3	2	MW-5, MW-3A, MW-6, MW-1A, MW-7, MW-4	6	7
DP#-988	Boyd Brothers, Inc. Dairy	MW-1	1	0	MW-3, MW-4, MW-5, MW-6, MW-7, MW-2	6	7
DP#-595	Back Nine Dairy	MW-4, MW-5A, MW-6, MW-7	4	0	MW-8, MW-9	2	6
DP#-1154	Saltridge Dairy	MW-2	1	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-1A	6	7
DP#-1245	4-Way Dairy	(Closeout: MW-2, MW-3, MW-5)	6	3	MW-2A, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	10

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1251	Crosswinds Dairy	MW-4, (Closeout: MW-1, MW-2, MW-3)	4	3	MW-2A, MW-5, MW-6, MW-7, MW-3A, MW-1A	6	7
DP#-115	Jones Dairy	MW-A, MW-B, MW-C	3	0	MW-D, MW-E, MW-F, MW-G, MW-H, MW-I	6	9
DP#-585	McCatharn Dairy	MW-4, MW-2, MW-1, MW-3	4	0	MW-5	1	5
DP#-1233	Mickey's Dairy	MW-1, MW-2,	2	0	MW-3, MW-4	2	4
DP#-227	Queso Grande Dairy	MW-4, (Closure: MW-1, MW-2, MW-3, MW-5, MW-6)	6	5	MW-11, MW-8, MW-9, MW-10, MW-12, MW-7	6	7
DP#-533	Dan Dee Dairy Inc.	MW-1A, MW-2, (Closure: MW-3)	3	1	MW-5, MW-6, MW-7, MW-4	4	6
DP#-683	Sideline Dairy	MW-2, MW-3, MW-6, MW-8, (Closure: MW-1, MW-4, MW-5, MW-7, MW-9, MW-10)	10	6	MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26	16	20
DP#-1141	Winchester Dairy	MW-1A, MW-2A, MW-3A, (Closure: MW-4A, MW-6, MW-5, MW-3)	7	4	MW-7, MW-3B, MW-4B, MW-6A, MW-8, MW-9, MW-10, MW-11, MW-12	9	12

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1136	Heritage Dairy	MW-1A, MW-3	2	0	MW-3A, MW-5, MW-4A, MW-6, MW-7, MW-8, MW-9	7	9
DP#-1168	Goff Dairy	MW-1A, MW-4A, (Closure: MW-2A, MW-3A)	4	2	MW-2B, MW-7, MW-8, MW-6, MW-9, MW-3B, MW-5	7	9
DP#-390	Wild West Dairy	N/A	0	0	MW-2, MW-3, MW-6, MW-4, MW-5, MW-1, MW-7	7	7
DP#-666	Western Star Dairy	MW-2, MW-5, (Closure: MW-1)	3	1	MW-6, MW-7, MW-8, MW-9	4	6
DP#-826	Anderson Dairy, Inc.	MW-2, MW-4, MW-5, (Closure: MW-1, MW-3)	5	2	MW-6, MW-7	2	5
DP#-1157	Albers NM Holdings	MW-1, MW-2A, MW-4, (Closure: MW-3)	4	1	MW-5, MW-3A, MW-6	3	6
DP#-1332	Opportunity Dairy	MW-2, MW-3, (Closure: MW-1)	3	1	MW-4, MW-5, MW-6, MW-1A	4	6
DP#-865	Pareo Dairy	MW-4, MW-5, (Closure: MW-1, MW-2, MW-3)	5	3	MW-3A, MW-1A	2	4
DP#-343	Tom Visser Dairy	MW-2, MW-3, MW-1, MW-4, (Closure: Center MW, East MW)	6	2	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	11

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-689	P-2 Dairy	MW-1A, MW-2, MW-3, MW-3A, MW-5, MW-6, MW-6A, MW-7, (Closure: MW-1, MW-4, MW-4A, MW-5A)	12	4	MW-8, MW-9, MW-10, MW-11	4	12
DP#-703	Desperado Dairy	MW-1, MW-2, (Closure: MW-3)	3	1	MW-5, MW-6, MW-4, MW-3A	4	6
DP#-1111	Do-Rene Dairy	MW-1, (Closure: MW-2, MW-3)	3	2	MW-4, MW-2A, MW-5, MW-6, MW-3A	5	6
DP#-1320	Clover Knolls Dairy	MW-1, MW-3, (Closure: MW-2)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-2A	10	12
DP#-1346	Ridgecrest Dairy	MW-1, (Closure: MW-2, MW-3)	3	2	MW-4, MW-2A, MW-3A, MW-5, MW-6, MW-7	6	7
DP#-1391	Nutt Dairy	MW-2, MW-3, (Closure: MW-1)	3	2	MW-1A, MW-4	2	3
DP#-987	Mitchell Dairy	MW-3, (Closure: MW-1, MW-2)	3	2	MW-12, MW-2A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-1A, MW-12	12	13
DP#-190	Othart Dairy	MW-3, MW-N, MW-S, (Closure: MW-1, MW-2)	5	2	MW-1A, MW-8, MW-2A, MW-5, MW-6, MW-7	6	9

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-674	SAS Dairy	MW-4	1	0	NONE	0	1
DP#-851	Highland Dairy	NONE	0	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	7	7
DP#-1587	John Visser Dairy 2	NONE	0	0	MW-1, MW-2, MW-3, MW-4, MW-5	5	5
DP#-177	Gonzales Dairy	MW-1, MW-2, MW-3A, MW-4, MW-5, MW-6, MW-7R	7	0	MW-8, MW-9, MW-10	3	10

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1323	Brand West Dairy 2	MW-1, MW-2, MW-3 (closeout)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16	13	15
DP#-195	Heraa Dairy	MW-1 (closeout)	1	1	MW-2, MW-3, MW-4, MW-5, MW-6	5	5
DP#-1195	Southvalley Dairy	MW-2, MW-3, MW-4, MW-5, MW-6, MW- West MW-East (closeout), MW-1 (closeout)	8	2	MW-9, MW-10, MW-11, MW-12	4	10
DP#-533	Dandee Dairy	MW-1A(closeout), MW-2 (closeout), MW-3, MW-4 (closeout), Damaged MW (closeout)	5	4	MW-2A, MW-5, MW-6, MW-7	4	5
DP#-554	Break-Away Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9	6	9
DP#-742	Breedyk Dairy	MW-1 (closeout), MW-2, MW-3	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12	9	11
DP#-1091	Native Pastures	NONE	0	0	MW-1, MW-2, MW-3	3	3
DP#-1288	Sunwest Dairy	MW-1, MW-2 (closeout), MW-3	3	1	MW-1A, MW-2A, MW-4, MW-5,	4	6
DP#-1321	Providence Dairy	MW-1, MW-2, MW-3 (closeout)	3	1	MW-3A, MW-4	2	4

MT2 - Draft Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-340	Bright Star Dairy	MW-86/340-1, MW-340-1, MW-340-2	3	0	MW-340-3, MW-4, MW-5, MW-6, MW-7	5	8
DP#-734	Cottonwood Springs Dairy	MW-1 (closeout), MW-2 (closeout), MW-3, MW-4 (closeout),	4	3	MW-1A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10 MW-11	9	10
DP#-382	Philmar Dairy	MW-1, MW-2, MW-3, MW-4	4	0	MW-1A, MW-5, MW-6, MW-7	4	8
DP#-926	Carter's Milk Factory	MW-2 (closeout), MW-3 (closeout), MW-4, MW-5	4	2	MW-6, MW-7, MW-8, MW-9	4	6
DP#-1299	Copper-Legacy Dairy	MW-1, MW-2 (closeout), MW-3 (closeout)	3	2	MW-2A, MW-3A, MW-4, MW-5	4	5
DP#-1313	Desert Star Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout), MW-4, MW-5 (closeout)	5	4	MW-3A, MW-5A, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12,	9	10
DP#-1032	Bosque Dairy	MW-1 (closeout), MW-2, MW-3	3	1	MW-4, MW-5	2	4
DP#-1294	R&R Ranch Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout), MW-4	4	3	MW-1A, MW-2A	2	3
Totals:			351	160		553	744
Mean:			3.6	1.6		5.6	7.6
Median:			3	1		5	7
Mode:			3	0		4	10
Maximum:			12	7		16	20
Minimum:			0	0		0	1
Standard Deviation:			2.07	1.48		3.02	3.11

MT3 - Combined Draft and Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-791	3V Dairy	MW-2, MW-5, MW-6, MW-7, MW-1(closeout), MW-4 (closeout)	6	2	MW-3A, MW-10, MW-11, MW12, MW-1A, MW4A, MW-13, MW-14	8	12
DP#-1003	Three Amigos Dairy	MW-1 (closeout), MW-3 (closeout), MW-2A, MW-4, MW-5	5	2	MW-1A, MW7, MW-8, MW-9, MW-10, MW-11, MW-3A	7	10
DP#-880	W-Diamond Dairy	MW-5 (closeout), MW-6, MW-7	3	1	MW-1A, MW-5A, MW-8	3	5
DP#-1004	Willard Dairy	MW-1B, MW-2A, MW-3 (closeout), MW-4 (closeout)	4	2	MW-5, MW-6, MW-7, MW-8, MW-9	5	7
DP#-1176	Jarratt Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-3A, MW-4, MW-5, MW-6, MW-7	5	5
DP#-921	Valley View Dairy	MW-1, MW-2A, MW-5, MW-6, MW-3 (closeout), MW-2 (closeout), MW-4 (closeout)	7	3	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16	10	14
DP#-537	Van Dam Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4 (closeout)	4	3	MW-9, MW-4, MW-5, MW-6, MW-7, MW-8	6	7
DP#-885	Jersey Gold Dairy	MW- EAST (closeout), MW-WEST (closeout)	2	2	MW-2, MW-3, MW-4, MW-1	4	4
DP#-707	Vaz Dairy	MW-3, MW-4, MW-5, (Closure: MW-2, MW-3A)	5	2	MW-7, MW-8, MW-9, MW-6	4	7
DP#-804	Sunshine Dairy	(Closure: MW-1, MW-2, MW-3, MW-4)	4	4	MW-2A, MW-3A, MW-4A, MW-5, MW-6, MW-1A	6	6

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1350	Loma Parada Dairy	MW-1, MW-2, MW-3	3	0	MW-7, MW-4, MW-5, MW-6	4	7
DP#-299	North Portales Dairy, LLC	(Closure: MW-4), MW-3, MW-1, MW-5	4	1	MW-5A, MW-7, MW-8, MW-6	4	7
DP#-208	Oasis Dairy	(Closure: MW01, MW-3), MW-2	3	2	MW-13, MW-14, MW-15, MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-1A	14	15
DP#-257	Sunset Dairy	MW-257-3, MW-257-1, MW-257-2, MW-257/260-1	4	0	MW-257-4, MW-257-5, MW-257-6, MW-257-7, MW-257-8, MW-257-9, MW-257-10	7	11
DP#-765	J&M Dairy	MW-8L, MW-9U, MW-9L, MW-10L, MW-12, MW-11L, MW-12U, MW-12L, MW-13L, MW-14, MW-1, MW-8U, MW-7, MW-2, MW-3, MW-10U, MW-11U, MW-13U, (Closure: MW-4, MW-5, MW-6)	21	3	MW-15, MW-16, MW-17, MW-18	4	22
DP#-1022	Southern Draw Dairy	NONE	0	0	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7	7	7

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1197	Legend Dairy	MW-1 (closeout), MW-2 (closeout)	2	2	MW-1A, MW-2A, MW-3A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13	13	13
DP#-1268	Dixieland Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-4, MW-5, MW-6, MW-7, MW-8	5	5
DP#-911	Chalk Hill Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout)	3	3	MW-4, MW-5, MW-6, MW-7	4	4
DP#-1312	Milk Flow Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4	4	2	MW-2A, MW-3A, MW-5, MW-6, MW-7	5	7
DP#-162	Yorktown Dairy	MW-2A, MW-4, MW-6, YT MW-5, YT MW-7, MW-1 (closeout), MW-W (closeout), MW-SE (closeout), MW-NE (closeout), MW-3R (closeout)	10	5	MW-1A (replaces MW-1), MW-3A, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13	8	13
DP#-606	Dexter Dairy	MW-1, MW-2 (closeout), MW-3 (closeout), MW-4 (closeout), MW-5	5	3	MW-6, MW-7, MW-8, MW-9, MW-10	5	7
DP#-738	El Visto Dairy 2	MW-1A, MW-2 (closeout), MW-3, MW-4 (closeout), MW-4A	5	2	MW-5, MW-7, MW-8, MW-9	4	7

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-70	Mountain View Dairy	MW-70/86/340-1, MW-70-1, MW-70-2, MW-70-3	4	0	MW-4, MW-5, MW-6	3	7
DP#-1203	Beaty Dairy	MW-1 (closeout), MW-2 (closeout), MW-3, MW-4	4	2	MW-5	1	3
DP#-1331	GH Dairy Deming	MW-1, MW-2, MW-3 (closeout)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12	9	11
DP#-346	Abarca Dairy	MW-1, MW-2	2	0	MW-3, MW-4	2	4
DP#-380	Barrera Dairy	B1 MW-1, B1 MW-2	2	0	B1 MW-1, B1 MW-3, B1 MW-4, B1 MW-5, B1 MW-6, B1 MW-7,	6	8
DP#-1181	Rasband Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW-6, MW-7	4	7
DP# 163	Pirtle Farms Dairy	MW-1A, MW-4, MW-6A, MW-7, MW-5 (closeout)	5	1	NONE	0	4
DP #164	Pirtle and Sons #2	MW-7, MW-8, MW-4 (closeout), MW5A (closeout), MW-6 (closeout), MW-1 (closeout)	6	4	MW-4A, MW-11, MW-12, MW-6A, MW-5B, MW-9, MW-10, MW-1A	8	10
DP#-207	Nature's Dairy	MW-2, MW-4, MW-1 (closeout)	3	1	MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-1A	8	10
DP#-635	Woodcrest Dairy	MW-1, MW-2, MW-3R, MW-4	4	0	MW-6, MW-7, MW-8, MW-9, MW-10	5	9

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-677	Cheyenne Dairies I&III	MW-1, MW-2, MW-3, MW-4 MW-6, MW-7, MW-5 (closeout)	7	1	MW-37, MW-38, MW-39, MW-40, MW-41, MW-42	6	12
DP#-717	Epicenter Dairy	MW-1A, MW-4, MW-3A, MW-2A (closeout) MW-1, MW-2A, MW-3, MW-4, MW-5, MW-6 (closeout), MW-7 (closeout), MW-8 (closeout)	4	1	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	10
DP#-718	DeGroot Dairy		8	3	MW-9, MW-10, MW-11, MW-12	4	9
DP#-764	Arroyo Dairy	MW-1A, MW-5, MW-6. (Closeout: MW-3, MW-4)	5	2	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-3R	7	10
DP#-776	Southwind Dairy	MW-2, MW-5	2	0	MW-6, MW-7, MW-3A, MW-4A, MW-8, MW-1B	6	8
DP#-1131	Par 5 Dairy	MW-2, MW-3, MW-7, (Closeout: MW-1, MW-5)	5	2	MW-8 MW-9, MW-5A, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15	9	12
DP#-1200	Borba Farms	MW-2, MW-3, MW-4, MW-1 (closeout)	4	1	MW-1A, MW-5, MW-6	3	6
DP#-956	Day Star Dairy	MW-4, (closeout: MW-1, MW-2)	3	2	MW-1A, MW-2A, MW-5, MW-6	4	5
DP#-1163	North Point Dairy	MW-3, MW-4	2	0	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-1A	8	10
DP#-1199	Palla Inc. Dairy	MW-1 (closeout)	1	1	MW-1A, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	10	10

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DP#-1277	El Dorado Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW6, MW7	4	7
DP#-1455	Route 77 Dairy	MW-2R (Closeout: MW-1R, MW-3)	3	2	MW-4, MW-5, MW6	3	4
DP#-1474	F.B. Ranch, LLC	MW-2, MW-3	2	0	MW-1A, MW-4, MW-5, MW-6, MW-7	5	7
DP#-170	Sun Valley Dairy	MW-1 (closeout), MW-2, MW-3, MW-4 (closeout), MW-5, MW-6A	6	2	MW-20, MW-21	2	6
DP#-259	Rockview Dairy	MW-4R (closeout), MW-5R, MW-6R, MW-7R	4	1	MW-11R, MW-12R	2	5
DP#- 762	High Lonesome Dairy	MW-4HL, MW-5HL (closeout), MW-6HL (closeout), MW7HL (closeout), MW-8HL (closeout)	5	4	MW-5A-HL, MW-MW-6A-HL, MW-MW-8A-HL, MW-11HL	4	5
DP#-909	Tee Vee Dairy	(Closeout: MW-2, MW3) MW-4, MW5	4	2	MW-3A, MW-6, MW-7, MW-8, MW-9	5	7
DP#-1559	Rocky Top Dairy	MW-1, MW-2 (closeout), MW-3	3	1	MW-2A, MW-4, MW-5, MW-6, MW-7	5	7
DP#-1025	Landmark Dairy	MW-1 (closeout), MW2 (closeout)	2	2	MW-1A, MW-3A, MW-4, MW-5, MW-6	5	5
DP#-1135	Bos Dairy, LLC-South	MW-1A, MW-2, MW-3A	3	0	MW-4, MW-5, MW-6	3	6
DP#-667	H & R Westra Dairy	(Closeout: MW-1, MW-2, MW-3) MW-4	4	3	MW-5, MW-6	2	3
DP#-753	Brouwer Dairy	MW-1, (Closeout: MW-2A, MW-3, MW4)	4	3	MW-2B, MW-3A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9	8	9

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-898	Bonestroo Dairy, LLC.	(Closeout: MW-1, MW-2, MW-4, MW-5, MW-6)	5	5	MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19	13	13
DP#-932	Midway Dairy	MW-2 (closeout), MW-4	2	1	MW-1A, W-2A, MW-3A, MW-5, MW-6	5	6
DP#-1001	James Idsinga & Son Dairy	(closeout: MW-1, MW-2)	2	2	MW-1R, MW-2R, MW-3R, MW-4, MW-5	5	5
DP#-1250	Sky Country Farms	MW-1, MW-2,	2	0	MW-3A, MW-4, MW5, MW6, MW-7, MW-8, MW-9, MW-10	8	10
DP#-1257	Double K Dairy	N/A	0	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	7	7
DP#-1286	Greenfield Park Dairy	MW-1 (closeout), MW-2, MW-3 (closeout)	3	2	MW-1A, MW-3A, MW-4, MW-5, MW-6	5	6
DP#-1287	Mathews Dairy	MW-2, MW-3(closeout)	2	1	MW-1A, MW-4, MW-3A	3	4
DP#-1315	J-Lu Dairy	MW-2, MW-4, (Closeout: MW-1, MW-3)	4	2	MW-1A, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9	7	9
DP#-1377	Grande Vida Dairy	MW-1, (Closeout: MW-2, MW-3)	3	2	MW-2A, MW-3A, MW-4	3	4
DP#-546	Caballo Dairy	MW-1 (Closeout) MW-2, MW-3)	3	2	MW-3A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW11, MW-12, MW-13, MW-14	12	13

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMEID Authorized Wells	Pre-Existing Wells	Closeout Wells	NMEID Action Required Additional Wells	New Wells Required	Total Wells
DP#-1194	Handley Dairy	Closeout: MW-A, MW-B, MW-C)	3	3	MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7	7	7
DP#-1477	HAW Farms	MW-1, MW-2	2	0	MW-4	1	3
DP#-1037	Edcal Dairy	MW-1 (closeout), MW-2, MW-3 (closeout), MW-4	4	2	MW-1A, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	9	11
DP#-480	Double Aught Dairy	487-1A, 487-4 (Closeout: 487-6, 480-1, 480-2, 480-3, 480-4, 487-5)	8	7	480-2R, 480-6, 487-7, 480-3R, 487-3R, 480-4R, 487-5R, 480-1R, 487-8	9	10
DP#-727	Shawnee Dairy	MW-3, (Closeout: MW-1, MW-2, MW-4)	4	3	MW-1A, MW-5, MW-6, MW-4A, MW-7, MW-8, MW-9, MW-10, MW-11, MW-2A	10	11
DP#-797	Cheyenne II Dairy	MW-2, (Closeout: MW-1, MW-3, MW-4)	4	3	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-4A,	9	10
DP#-1439	Secondwind Dairy	MW-1	1	0	MW-2, MW-3, MW-5, MW-4	4	5
DP#-878	Rajen Dairy #2	MW-1 (closeout)	1	1	MW-1A, MW-3, MW-2A, MW-4, MW-5, MW-6, MW-7, MW-8,	8	8
DP#-934	South Slope Dairy	(Closeout: MW-1, MW-3) MW-2)	3	2	MW-10, MW-2A, MW-4, MW-3A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-1A	10	11

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMEED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMEED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1379	Cross Country Dairy	MW-2 (closeout)	1	1	MW-2A, MW-3, MW-4, MW-1A,	4	4
DP#-1413	N&N Dairy	(Closeout: MW-1, MW-2, MW-3, MW-4A)	4	4	MW-2A, MW-5, MW-3A, MW-4A, MW-6, MW-7, MW-8, MW-1A	8	8
DP#-461	Beestra Family Dairy	MW-2, (Closeout: MW-3, MW-1)	3	2	MW-5, MW-3A, MW-6, MW-1A, MW-7, MW-4	6	7
DP#-988	Boyd Brothers, Inc. Dairy	MW-1	1	0	MW-3, MW-4, MW-5, MW-6, MW-7, MW-2	6	7
DP#-595	Back Nine Dairy	MW-4, MW-5A, MW-6, MW-7	4	0	MW-8, MW-9	2	6
DP#-1154	Saltridge Dairy	MW-2	1	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-1A	6	7
DP#-1245	4-Way Dairy	MW-1A, MW-1, MW-4, (Closeout: MW-2, MW-3, MW-5)	6	3	MW-2A, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	10
DP#-1251	Crosswinds Dairy	MW-4, (Closeout: MW-1, MW-2, MW-3)	4	3	MW-2A, MW-5, MW-6, MW-7, MW-3A, MW-1A	6	7
DP#-115	Jones Dairy	MW-A, MW-B, MW-C	3	0	MW-D, MW-E, MW-F, MW-G, MW-H, MW-I	6	9
DP#-585	McCatharn Dairy	MW-4, MW-2, MW-1, MW-3	4	0	MW-5	1	5

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closure Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1233	Mickey's Dairy	MW-1, MW-2,	2	0	MW-3, MW-4	2	4
DP#-227	Queso Grande Dairy	MW-4, (Closure: MW-1, MW-2, MW-3, MW-5, MW-6)	6	5	MW-11, MW-8, MW-9, MW-10, MW-12, MW-7	6	7
DP#-533	Dan Dee Dairy Inc.	MW-1A, MW-2, (Closure: MW-3)	3	1	MW-5, MW-6, MW-7, MW-4	4	6
DP#-683	Sideline Dairy	MW-2, MW-3, MW-6, MW-8, (Closure: MW-1, MW-4, MW-5, MW-7, MW-9, MW-10)	10	6	MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26	16	20
DP#-1141	Winchester Dairy	MW-1A, MW-2A, MW-3A, (Closure: MW-4A, MW-6, MW-5, MW-3)	7	4	MW-7, MW-3B, MW-4B, MW-6A, MW-8, MW-9, MW-10, MW-11, MW-12	9	12
DP#-1136	Heritage Dairy	MW-1A, MW-3	2	0	MW-3A, MW-5, MW-4A, MW-6, MW-7, MW-8, MW-9	7	9
DP#-1168	Goff Dairy	MW-1A, MW-4A, (Closure: MW-2A, MW-3A)	4	2	MW-2B, MW-7, MW-8, MW-6, MW-9, MW-3B, MW-5	7	9
DP#-390	Wild West Dairy	N/A	0	0	MW-2, MW-3, MW-6, MW-4, MW-5, MW-1, MW-7	7	7

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DP#-666	Western Star Dairy	MW-2, MW-5, (Closure: MW-1)	3	1	MW-6, MW-7, MW-8, MW-9	4	6
DP#-826	Anderson Dairy, Inc.	MW-2, MW-4, MW-5, (Closure: MW-1, MW-3)	5	2	MW-6, MW-7	2	5
DP#-1157	Albers NM Holdings	MW-1, MW-2A, MW-4, (Closure: MW-3)	4	1	MW-5, MW-3A, MW-6	3	6
DP#-1332	Opportunity Dairy	MW-2, MW-3, (Closure: MW-1)	3	1	MW-4, MW-5, MW-6, MW-1A	4	6
DP#-865	Parco Dairy	MW-4, MW-5, (Closure: MW-1, MW-2, MW-3)	5	3	MW-3A, MW-1A	2	4
DP#-343	Tom Visser Dairy	MW-2, MW-3, MW-1, MW-4, (Closure: Center MW, East MW)	6	2	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11	7	11
DP#-689	P-2 Dairy	MW-1A, MW-2, MW-3, MW-3A, MW-5, MW-6, MW-6A, MW-7, (Closure: MW-1, MW-4, MW-4A, MW-5A)	12	4	MW-8, MW-9, MW-10, MW-11	4	12
DP#-703	Desperado Dairy	MW-1, MW-2, (Closure: MW-3)	3	1	MW-5, MW-6, MW-4, MW-3A	4	6

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Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closure Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-1111	Do-Rene Dairy	MW-1, (Closure: MW-2, MW-3)	3	2	MW-4, MW-2A, MW-5, MW-6, MW-3A	5	6
DP#-1320	Clover Knolls Dairy	MW-1, MW-3, (Closure: MW-2)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-2A	10	12
DP#-1346	Ridgecrest Dairy	MW-1, (Closure: MW-2, MW-3)	3	2	MW-4, MW-2A, MW-3A, MW-5, MW-6, MW-7	6	7
DP#-1391	Nutt Dairy	MW-2, MW-3, (Closure: MW-1)	3	2	MW-1A, MW-4	2	3
DP#-987	Mitchell Dairy	MW-3, (Closure: MW-1, MW-2)	3	2	MW-12, MW-2A, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-1A, MW-12	12	13
DP#-190	Othart Dairy	MW-3, MW-N, MW-S, (Closure: MW-1, MW-2)	5	2	MW-1A, MW-8, MW-2A, MW-5, MW-6, MW-7	6	9
DP#-674	SAS Dairy	MW-4	1	0	NONE	0	1
DP#-851	Highland Dairy	NONE	0	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10	7	7
DP#-1587	John Visser Dairy 2	NONE	0	0	MW-1, MW-2, MW-3, MW-4, MW-5	5	5

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DP#-177	Gonzales Dairy	MW-1, MW-2, MW-3A, MW-4, MW-5, MW-6, MW-7R	7	0	MW-8, MW-9, MW-10	3	10
DP#-1323	Brand West Dairy 2	MW-1, MW-2, MW-3 (closeout)	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16	13	15
DP#-195	Heraa Dairy	MW-1 (closeout)	1	1	MW-2, MW-3, MW-4, MW-5, MW-6	5	5
DP#-1195	Southvalley Dairy	MW-2, MW-3, MW-4, MW-5, MW-6, MW-West MW-East (closeout), MW-1 (closeout)	8	2	MW-9, MW-10, MW-11, MW-12	4	10
DP#-533	Dandee Dairy	MW-1A(closeout), MW-2 (closeout), MW-3, MW-4 (closeout), Damaged MW (closeout)	5	4	MW-2A, MW-5, MW-6, MW-7	4	5
DP#-554	Break-Away Dairy	MW-1, MW-2, MW-3	3	0	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9	6	9
DP#-742	Breedyk Dairy	MW-1 (closeout), MW-2, MW-3	3	1	MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12	9	11
DP#-1091	Native Pastures	NONE	0	0	MW-1, MW-2, MW-3	3	3
DP#-1288	Sunwest Dairy	MW-1, MW-2 (closeout), MW-3	3	1	MW-1A, MW-2A, MW-4, MW-5,	4	6
DP#-1321	Providence Dairy	MW-1, MW-2, MW-3 (closeout)	3	1	MW-3A, MW-4	2	4

MT3 - Combined Draft and Final Permits Issued Under Dairy Rule

Permit Number	Facility Name	Subject to NMAC 20.6.6.23 NMED Authorized Wells	Pre-Existing Wells	Closeout Wells	NMED Action Required Additional Wells	New Wells Required	Total Wells
DP#-340	Bright Star Dairy	MW-86/340-1, MW-340-1, MW-340-2	3	0	MW-340-3, MW-4, MW-5, MW-6, MW-7	5	8
DP#-734	Cottonwood Springs Dairy	MW-1 (closeout), MW-2 (closeout), MW-3, MW-4 (closeout),	4	3	MW-1A, MW-4A, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10 MW-11	9	10
DP#-382	Philmar Dairy	MW-1, MW-2, MW-3, MW-4	4	0	MW-1A, MW-5, MW-6, MW-7	4	8
DP#-926	Carter's Milk Factory	MW-2 (closeout), MW-3 (closeout), MW-4, MW-5	4	2	MW-6, MW-7, MW-8, MW-9	4	6
DP#-1299	Copper-Legacy Dairy	MW-1, MW-2 (closeout), MW-3 (closeout)	3	2	MW-2A, MW-3A, MW-4, MW-5	4	5
DP#-1313	Desert Star Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout), MW-4, MW-5 (closeout)	5	4	MW-3A, MW-5A, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12,	9	10
DP#-1032	Bosque Dairy	MW-1 (closeout), MW-2, MW-3	3	1	MW-4, MW-5	2	4
DP#-1294	R&R Ranch Dairy	MW-1 (closeout), MW-2 (closeout), MW-3 (closeout), MW-4	4	3	MW-1A, MW-2A	2	3
Totals:			479	213		720	986
			Mean:	3.8		1.7	5.7
			Median:	3		2	7.8
			Mode:	3		2	7
			Maximum:	21		7	7
			Minimum:	0		0	22
			Standard Deviation:	2.53		1.45	1
						2.99	3.37

RESUMÉ

MARK W. TURNBOUGH, PhD
OCTOBER, 2014

General Background: Includes advanced multi-disciplinary education, training and experience in the analysis and synthesis of complex systems, environmental policy, technology assessment, statistical research, land-use analysis/socio-economics/demography, legislative analysis/bill drafting, drafting of regulatory language and preparation of complex permit applications for critical facilities.

Consulting Experience: Primary areas of activity include regulatory permitting/compliance monitoring, management of technical negotiations for legal/regulatory settlements, environmental impact assessment, site suitability analysis, site selection, site characterization, analysis of land uses, site remediation/restoration analysis, statistical research and computer applications, including Geographic Information Systems and Predictive Models.

Synopsis of Selected Consulting Activity (1984-2014):

(For complete work history, see Page 9, **Experience** section).

In July 2014 was retained by the FFPTHCA Alliance to evaluate the environmental and land use impacts of a set of routes for a 138kV electric transmission line proposed by the Lower Colorado River Authority (LCRA) in Gillespie County (Luckenbach) Texas. PUC Docket Number not assigned yet.

In April 2014 was selected by URS, Inc., B & W, Inc., and AREVA to be on a six person executive team to review and provide technical and regulatory guidance for the development of the Recovery Plan for the U.S. Department of Energy Waste Isolation Pilot Plant. The facility was shut down in February of 2014 by a radiation leak in the underground repository.

In March of 2014 was retained by the City of Haslet, Texas and the Blue Mound Alliance to evaluate the environmental and land use impacts of a set of routes for a 138kv electric transmission line proposed by ONCOR Electric Delivery Company in Denton, Tarrant and Wise Counties, Texas, PUC Docket No. 42087.

In February of 2014, was retained by Braun & Gresham, PLLC on behalf of Ray Audas, et al., Four S Investments, Henry Bethea and Jeff and Peggy Fye to evaluate an electric transmission line proposed by Entergy Texas, Inc. in Grimes and Montgomery Counties, Texas, PUC Docket No. 41718.

In January of 2014 was retained by the firm of Braun & Gresham, PLLC on behalf of Wayne “Skip” Hill, et al., Michael Bradley Nevil, and Brunhild Investments, Inc. to evaluate the TNMP CCN and route study that was used to select a route for the proposed Westminster 138 kV transmission line in Collin County, Texas, PUC Docket No.41756.

In May of 2013 was retained by Bechtel National, Inc. to provide consulting expertise on the development of a water infrastructure business unit that would serve national and international water development needs.

In November of 2012 was retained by the law firm of Ewell, Bickham and Brown, LLP on behalf of The East Wildlife Foundation in re: The San Antonio Viejo Ranch to evaluate the Recommended Route advanced by Electric Transmission Texas, LLC in its application for a 345kV double circuit Transmission Line from Rio Lobo to Rio Bravo to North Edinburg in Webb, Zapata, Jim Hogg, Brooks, Starr, and Hidalgo Counties, Texas. Was also tasked to file Cross Rebuttal Testimony in the case, PUC Docket No. 40728. Case settled on February 19, 2013 with adoption of alternate route advanced by East Wildlife Foundation and the Alliance of South Texas Ranches.

In October of 2012 was retained by Herrera & Boyle, PLCC on behalf of Bryan Herr, Tom Trial, Anthony Jennings, and John Morvant to evaluate the Application of Brazos Electric Power Cooperative, Inc. to Amend a CCN for construction of a 138kV single circuit transmission line in Grimes, Walker, and Montgomery Counties, Texas-SOAH Docket No.473-12-7019, PUC Docket No. 40319, Public Utility Commission of Texas.

In June of 2012 was retained by Boston Government Services, to provide consulting services directly to the Environmental Management Division of the U.S. Department of Energy on regulatory and cross-cutting issues in the management of legacy waste at sites throughout the DOE Complex. The program is designed to provide nationally recognized expertise to the EM Division.

In January of 2012, was retained by the New Mexico State Land Office to provide technical and regulatory expertise on two unrelated tasks: (1) To evaluate the nature, extent, remediation and reclamation of surface resources affected by large scale tire dumping on State lease land, and to testify as an expert in re: New Mexico Commissioner of Public Lands v. Daniels, et al (2) To assist the Commissioner of Public Lands in evaluating the potential impact on state owned lands of proposed changes to New Mexico Oil Conservation Commission (“OCC”) Rules regarding the disposition of Oil and Gas Exploration and Production wastes, and preparing a formal comment to the OCC.

In November of 2011, was retained by Gordon Environmental, Inc., Albuquerque, New Mexico, to provide site selection-site suitability expertise re: the selection of land in Sandoval County suitable for the development of a new Regional Subtitle D Landfill.

In July of 2011, was retained by the Law Firms of Lafont, Tunnel, Formby, Lafont & Hamilton, Plainview, Texas and Zach Brady & Co. on behalf of the Cogdell Ranches Trust to evaluate and prepare direct testimony as an expert before the Texas PUC re: the Application of Southwestern Public Service Company to Amend a Certificate of Convenience and Necessity for a Proposed 345kV Electric Transmission Line within Hale, Floyd, Motley, Cottle, Briscoe, Hall, Childress, Donley, Collingsworth, and Wheeler Counties, Texas (SOAH Docket No. 473-11-5978, PUC Docket No. 38877 Public Utility Commission of Texas) that would cross nine of the Cogdell ranches in the Panhandle of Texas.

In June of 2011, was retained by Robert Hall, Oklahoma City, Oklahoma to oversee resolution of compliance issues between Lea Land Industrial Landfill and the New Mexico Environment Department.

In March of 2011, was retained by the Lea County, New Mexico Economic Development Corporation to prepare an application to the New Mexico Environment Department for a “Voluntary Remediation Program/Covenant Not To Sue” on behalf of International Isotopes, Inc.

In January of 2011, was retained by the Law Firm of Stubbeman, McRae, Sealy, Laughlin & Browder on behalf of John B. Phillips, Skipper Driver, and Dane Driver to evaluate selected links in the Wind Energy Transmission Texas, LLC proposed Long Draw to Sand Bluff to Divide and Sand Bluff to Bearkat 345 kV CREZ Transmission Lines in Borden, Coke, Glasscock, Howard, Mitchell, & Sterling Counties (SOAH Docket No. 473-11-1266, PUC Docket No. 38825).

In November of 2010, was retained by Big Bear Disposal, Lovington, New Mexico to evaluate the suitability of sites in southeastern New Mexico for the development of proposed Oil and Gas Waste Disposal Facilities.

In October of 2010, was retained by the Lea County, New Mexico Economic Development Corporation to validate site suitability for two tracts of land west of Hobbs, New Mexico for the location of two facilities: one (640 acres) that would De-convert Depleted Uranium Hexafluoride, and the other (1000 acres) for a facility that would utilize a patented recombinant organism, brine-water and carbon dioxide in a large array of photosensitive panels to produce diesel products and related molecular chains.

In August of 2010, was retained by Law Firm of Herrera & Boyle on behalf of Group of Allied Landowners to evaluate selected links in the amended ONCOR Willow Creek-Hicks 345-kV CCN for a CREZ Transmission Line in Denton, Parker, Tarrant and Wise Counties (SOAH Docket No. 473-10-4789, PUC Docket No. 38324).

In July of 2010, was retained by Law Firm of Herrera & Boyle on behalf of the Ioni Creek Conservation Group to evaluate selected links in the Lone Star Central A to Central B to Sam Switch to Navarro 345-kV CCN Route Analysis (SOAH Docket No.473-10-4398, PUC Docket No. 38230).

In May of 2010, was retained by Law Firm of Herrera & Boyle on behalf of Clear Creek Preservation Coalition to evaluate selected links in the ONCOR Riley-Krum 345-kV CCN Route Study and Environmental Assessment (SOAH Docket No.473-10-4109, PUC Docket No. 38140).

In December of 2009, was retained by Law Firm of Locke, Lord, Bissell and Lydell on behalf of CJ Ranch, Garrett Ranch, Point Peak Resort and Jean Mueller to evaluate alternatives to LCRA's proposed 345-kV transmission line from Gillespie –Newton (PUC Docket No. 37448)

In July of 2009, was retained by Hicks & Co. to evaluate the environmental impacts of alternative routes for a Lower Colorado River Authority (LCRA) electric transmission line that would run from Dallas to Kendall County, Texas.

In August of 2008, was retained by Waste Connections, Inc. to characterize and acquire land from the New Mexico Commissioner of Public Lands that would be suitable for permitting under 20.9.1 NMAC for a Subtitle D solid waste disposal facility in Otero County, New Mexico.

In August of 2008, was retained by The Urlacher Group (Big Bear Disposal, Inc.) to site, characterize, permit and oversee construction of an Oilfield disposal system under Rule 36 of the Oil Conservation Commission Regulations.

From February of 2008 to October 2011, was retained by Project Enhancement Corporation (PEC) to provide regulatory expertise to the Environmental Management Division of DOE re: Cross-cutting issues with the potential to affect multiple sites in the complex.

In January 2008, was retained by Los Alamos National Security (LANS) to provide regulatory guidance to LANS and NNSA re: implementation of the Los Alamos RCRA Order on Consent signed by the state of New Mexico, DOE and LANS.

In December 2007, coordinated the legal/technical case and testified for the applicant in the New Mexico Environment Department's adjudicatory permit hearing for Camino Real Landfill in Sunland Park, New Mexico.

In August 2007, was retained by the Lea County Energy Committee / Lea County Economic Development Corporation to characterize the suitability of several selected sites for construction and operation of a Uranium Enrichment Facility. A separate entity, International Isotopes has selected one of those sites for a de-conversion plant.

In January 2007, was retained by the Eddy-Lea Energy Alliance, LLC (ELEA) as Principal Site Investigator for the proposed ELEA Global Nuclear Energy Partnership (GNEP) Site Characterization effort for a Consolidated Fuel Reprocessing Facility and an Advanced Burner Reactor.

In December 2007, was retained by Sundance Oilfield Services, LLC to develop an application under new Oil Conservation Division regulations for solid waste disposal facilities near Eunice, New Mexico.

In October 2006, was retained by Ben Barnes & Associates to evaluate RCRA compliance issues for the Lea Land Industrial Waste Disposal Facility in Lea County, New Mexico.

In May 2006, was retained by the City of Clayton, New Mexico to locate, characterize, acquire and permit a suitable site for a regional landfill for northeast New Mexico and northwest Texas.

In April 2006, was retained by Gordon Environmental, Inc. for Southwest Landfill to evaluate the relationship between the existing facility and land uses in the surrounding area.

In April 2006, was retained by a private consortium representing Lea and Eddy Counties (ELEA), New Mexico to manage the preparation of a site proposal to the DOE (Global Nuclear Energy Partnership-GNEP) request for proposals to identify a suitable site for a proposed spent nuclear fuel recycling facility. After GNEP the ELEA has purchased the proposed site for other economic development purposes.

From January 2006 to the present, has been retained as a consultant by Las Uvas Dairies, Hatch, New Mexico (one of the largest family owned dairy operations in the United States) to provide regulatory assistance to its facility engineers regarding the renewal and compliance maintenance of its consolidated discharge permits issued by the state of New Mexico.

From March 2005 to March 2006, drafted sections for the Camino Real Solid Waste permit application and provided quality assurance review of the entire submission. The application package was submitted to the New Mexico Environment Department Solid Waste Bureau on March 6, 2006.

From October 2005 to March 2006, coordinated independent third party preparation of Community Impact Assessments (CIA) for Camino Real Landfill (Sunland Park, N.M.) and the proposed Rhino Landfill (Chaparral, N.M.). The studies were prepared as part of the permitting process for both facilities.

As consultant to Camino Real Landfill in Sunland Park, New Mexico, participated in the preparation and submission of the Title V Operating Permit renewal application. The application was submitted to the New Mexico Environment Department (NMED) on April 29, 2005 and was

subsequently approved and the permit was re-issued.

As consultant to Sandoval County (New Mexico), participated in the preparation of a RCRA Subtitle D Application for a major expansion of regional landfill and recycling facility. (April 2004-June 2005). Facility permitted on July 17, 2005.

As consultant to Controlled Recovery, Inc. (CRI), provided regulatory expertise to large scale oil recycling operation in Lea County New Mexico (April, 2005-January 2007).

As consultant to WCI, Inc., negotiated settlement of NMED Administrative Order against El Paso Disposal, Inc. (a subsidiary of WCI, Inc.) (October-December, 2004).

As consultant to Carroll, Gross, Reeder & Drews, LLP provided expertise on behalf of Lawrence and Carolyn Biedenharn in re: a 138kV electric transmission line proposed by the Lower Colorado River Authority ("LCRA") Transmission Services in Kendall and Bexar Counties (SOAH Docket No. 473-04-7609, PUC Docket No. 29684, Public Utility Commission of Texas) July, 2004-July, 2005.

As consultant to CH2M HILL, provided specialized regulatory and project development expertise (January 2004-December 2009).

As consultant to Advanced Technologies and Laboratories International, Inc. (ATL) provided specialized regulatory expertise to U. S. Department of Energy Headquarters Environmental Management Division (EM3) for the definition and resolution of major regulatory problems for DOE facilities, e.g. LANL Consent Order, Hanford TRU Tank Waste and Fernald Silos Waste (April 2004-2009).

As consultant to Nuclear Waste Partners (Formerly the Washington Group International) provides specialized regulatory consulting for the Washington Group at the U.S. Department of Energy WIPP facility in the state of New Mexico (January 2004-present).

As consultant to the National Enrichment Facility (NEF), provided specialized regulatory consulting for the acquisition of environmental permits from the state of New Mexico (January 2004-January 2010).

As consultant to Aquila / Canberra, Inc. provided specialized regulatory and policy analyses for ongoing North American projects (July 2003-2006).

As consultant to the New Mexico State Land Office drafted policy guidance for enhancing the protection of surface resources on land owned by the State of New Mexico (June 2003-July 2004).

As consultant to Cogema (AREVA), Inc. conducted regulatory and technical feasibility studies for a range of potential North American projects (September 2002-2003).

As consultant to American 3CI, provided regulatory expertise on the preparation of permits for infectious waste management facilities (February 2002-March 2006).

As consultant to CTAC, provided regulatory expertise on the modification of the U.S. Department of Energy (DOE) /WIPP hazardous waste permit issued by the State of New Mexico (January 2002-January, 2004).

As consultant to Moncrief Oil Company, provided specialized regulatory guidance on the disposition of sulfur and related by-products of natural gas processing facilities in the Wind River Basin of central Wyoming (August 2001-August 2002).

As consultant to Westinghouse/TRU Solutions and Westinghouse Safety Management Solutions, provided regulatory expertise on the modification of the U.S. DOE/WIPP hazardous waste permit issued by the state of New Mexico (September 2000-December 2001).

As consultant to the Edwards Aquifer Authority (contracted through Kemp Smith, P.C. and Hicks and Co.) provided regulatory analysis for the development of and impact assessment for new aquifer management rules (June 2000-December 2009).

As environmental consultant to CRI, Inc. provided regulatory expertise; client was in opposition to a proposal by the state of New Mexico to co-mingle oilfield wastes with solid waste (sub-title D) in disposal cells permitted for sub-title D wastes (Jan.-Nov., 2000). NMED hearing officer adopted Mr. Turnbough's interpretation of the regulatory framework. It was the first time an NMED hearing officer had ever ruled against an established NMED policy.

As consultant to the Washington Group assisted in the development of a community interface plan to improve the company's relationship with Lea County, New Mexico (July-September, 2000).

As consultant to the Washington Group, provided permit and license data regarding WCS capabilities to store and characterize TRU waste in support of the WIPP project (February- April, 2000).

As environmental consultant to Lea County, New Mexico provided interface with U.S. Department of Energy (DOE) in preliminary discussions regarding economic development associated with the operation of the DOE Waste Isolation Pilot Plant (WIPP) (1999-2000).

As environmental consultant to Raymond G. Sanchez and Robert Desiderio, attorneys at law, provided project management and coordination for site assessments on Maloof properties in New Mexico (January 2000-December 2001).

As environmental consultant to the El Paso, Texas based law firm of Kemp Smith, provided expertise for the selection and development of water resources for use by the City of El Paso (2000-2005).

As environmental consultant to Chandler and Associates, provided expertise on the assessment of a large and complex oilfield contamination case (Cantrell v. Ashland Oil Co.) in Johnson and Lawrence Counties, Kentucky (1999-2009).

As lead consultant on the Lea County Landfill project managed site selection studies and permit document preparation for submission to the New Mexico Environment Department (Permit granted 1999).

As environmental consultant to WCS, LLC provides regulatory guidance for the development of permits and licenses for additional waste streams for the facility. Also provide systems support and compliance monitoring at permitted facility in Texas (June 1995-Present).

As environmental consultant to Harlan Richey (President of Richey Oil Co.), provided expertise and expert testimony; client was in opposition to a proposed 27,000 acre sludge application project adjacent to the historic Eagle Mountain Ranch in Hudspeth County, Texas. The Texas Natural Resources Conservation Commission (TNRCC) subsequently withdrew its prior approval of the project (1997-1998).

As environmental consultant to Phillips Petroleum, Inc., provided expertise and expert witness testimony (deposition only—case was settled in favor of Phillips) on a complex land use/groundwater contamination case (1997-1998).

As environmental consultant/project manager to Camino Real Environmental Center (CREC), managed the development of three solid waste permit applications for boundary modification, recycling center and landfill permit renewal for the solid waste facility at Sunland Park, (Doña Ana County) New Mexico. (Permits granted 1997). Coordinated Title V and NSPS permitting and related compliance issues at the all of the subsidiary facilities in New Mexico (1990-2006). Provided regulatory guidance for early phases of solid waste permit application preparation for 2007 hearing. Compliance monitoring (2004-2012).

As environmental consultant/project manager for USA/UNITED WASTE, coordinated the rehabilitation of a permit (solid waste) application for Tri-Sect Landfill in Valencia County, New Mexico. (1998)

As environmental consultant/project manager for CREC, managed the acquisition of a discharge permit for a sludge land application site at the CREC Sunland Park, New Mexico site. (1994)

As environmental consultant/project manager for CREC, managed the site selection and development of a permit application for the Eddy County, New Mexico regional landfill (Sand Point Regional Landfill). (Permit granted 1994)

As environmental consultant/project manager for Med-Compliance Services (MCS), managed the development of a permit application for a bio-medical waste transfer and processing facility in Albuquerque (Bernalillo County) New Mexico. (Permit granted 1994).

Project required the development of a new processing technology that could meet new state standards.

As environmental consultant to Lower Valley Water District (El Paso County), prepared environmental assessments for Las Azaleas constructed wetlands project. (1993).

As permit consultant to R.R.I., acquired landfill and recycling permits for R.R.I. (NUMEX Landfill) facilities at Sunland Park, New Mexico. (1991).

As project manager for El Paso County, (El Paso County v. State of Texas), coordinated 4 year review of Ft. Hancock site suitability for radioactive waste disposal. Developed technical case for plaintiffs. Plaintiffs prevailed on all 25 factual issues. District court decision upheld plaintiffs. State did not appeal. (1988-1991).

As Director of Special Projects (consulting position) at the Rio Grande Council of Governments, El Paso, Texas responsibilities included development and management of multi-disciplinary projects that focused primarily on land use and site planning issues in the region, e.g., site selection for landfills, industrial parks, experimental energy storage systems, etc., (1989).

As Principal Planner at Sub-Land, Inc. El Paso, Texas responsibilities included management of environmental and economic feasibility studies for large-scale land use projects. (1986-1987).

As a Senior Staff Policy Analyst/Planner at EH & A Environmental Consultants, Austin, Texas was responsible for the design and implementation of land use, environmental/economic baseline and impact studies and other assessments. Also was responsible for various types of specialized studies (regulatory, budgeting and forecasting). Developed and managed computer-based models for environmental planning, e.g. riverine flow impacts on bays and estuaries, predictive models for archeological resources in large scale surveys. (1984-1987).

Expert Witness Experience: Federal and State Court; Regulatory Hearings. (Primary areas – permitting, environmental assessment, environmental remediation/restoration, land use analysis, solid waste facility regulations, municipal services assessment and redistricting). Expert testimony in Administrative/Regulatory Hearings on environmental/land use issues, e.g. RCRA permits, air quality permits, routing of electric transmission lines and water plans.

Academic Experience: Taught courses in site planning, land use management, environmental policy, alternative energy resource investigations, organization theory, industrial expansion analysis, policy typology assessment, public budgeting fiscal planning, anthropology and quantitative sociology.

Experience/Work History:

(Note: Several activities have overlapping/ concurring time frames)

Environmental/Land Use Consultant	FFPTHC Alliance Fredricksburg, Texas June 2014 through Present
Environmental/Land Use Consultant	City of Haslet, Texas March through July 2014
Environmental/Land Use Consultant	Braun & Gresham, PLLC Austin, Texas January 2014 through Present
Water Resource Consultant	Bechtel National, Inc. Reston, VA May 2013 through Present
Environmental/Land Use Consultant	Ewell, Bickham, and Brown, LLP Austin, Texas November 2012 to February 2013

**Environmental/Land Use
Consultant**

Herrera & Boyle, PLLC
Austin, Texas
October to December 2012

Regulatory Consultant

Boston Government Services, LLC
Lenoir City, TN
June 2011 through Present

Environmental Consultant:

New Mexico State Land Office
SLO v. Daniels, et al/ Pit Rule Amendments
Santa Fe, New Mexico
January 2012 to October 2014

Environmental Consultant:

Gordon Environmental, Inc.
Sandoval County Landfill
Albuquerque, New Mexico
November 2011 to the present

**Environmental Consultant:
Utility CCN Review**

Lafont, Tunnel, Formby, et al
On behalf of Cogdell Trust
Plainview, Texas
August 2011 to the present

**Environmental Consultant/
Regulatory Compliance:**

Robert Hall
Oklahoma City, Oklahoma
June 2011 to the present

**Environmental Consultant/
Regulatory Compliance:**

Lea County Economic Development Corp
Lea County, New Mexico
March 2011 to September 2011

**Environmental Consultant/
Utility CCN Review:**

Stubbeman, McRae, Sealy, Laughlin &
Browder, LLC
Midland, Texas
January 2011 to March 2011

**Environmental Consultant/
Site Suitability Assessment:**

Big Bear Disposal Disposal
Lovington, New Mexico
November 2010 to the present

**Environmental Consultant/
Site Suitability Assessment:**

Lea County Economic Development Corp,
New Mexico
October 2010 to March 2011

**Environmental Consultant/
Utility CCN Review:**

Herrera & Boyle, PLLC
Austin, Texas
May 2010 to December 2010

**Environmental Consultant/
Utility CCN Review:**

Locke, Lord, Bissell and Lydell, PLLC
Austin, Texas
December 2009 to March 2010

Environmental Consultant:

Hicks & Co.
Austin, Texas
July 2009

**Land Acquisition/
Permitting Consultant:**

Waste Connections, Inc
Houston, Texas
August 2008 to the present

Permitting Consultant:

The Urlacher Group
Doing Business as DNCS
Phoenix, AZ
August 2008 to the present

Regulatory Consultant:

Project Enhancement Consultants
Germantown, Maryland
February 2008 to October 2011

Regulatory Consultant:

Los Alamos National Security, LLC
Los Alamos National Laboratory
January 2008 to the present

Project Manager: Waste Connections, Inc. (Houston, Tx)
Adjudicatory Permit Hearing for Camino
Real Landfill (Sunland Park, NM)
December 2007 (30 day hearing)

Site Suitability Consultant: Lea County, New Mexico
Nuclear Facility Sites
Hobbs, New Mexico
August 2007 to the present

Principal Site Investigator: Eddy-Lea Energy Alliance,
Global Nuclear Energy Partnership
Site Characterization for Spent Fuel
Reprocessing Facility and ABR
January 2007-present

Permitting Consultant: Sundance Oilfield Services,
Eunice, New Mexico
December 2006-November 2012

Regulatory Consultant: Ben Barnes & Associates,
Austin, Texas
October 2006-October 2008

Land Use/ Regulatory Consultant: City of Clayton, New Mexico
May 2006-January 2007

Land Use Consultant: Lea/Eddy County GNEP Proposal
Hobbs/Carlsbad, New Mexico,
April 2006-present

Land Use Consultant: Southwest Landfill
Albuquerque, New Mexico
February, 2006-July 2006

Regulatory Consultant: Las Uvas Dairies
Hatch, New Mexico
January 2006-present

**Environmental Consultant/
Utility CCN Review:** Carroll, Gross, Reeder & Drews, L.L.P.
Austin, Texas, July 2004-July 2005

Systems and Environmental Consultant: CH2M Hill, Inc., Albuquerque, New Mexico
August 2004-December 2009

Regulatory Consultant: Advanced Technologies and Laboratories,
International, Inc. Germantown, Maryland,
April 2004-2007

Regulatory Consultant: Washington TRU Solutions (NWP)
Carlsbad, New Mexico
U. S. Dept of Energy WIPP Facility
January 2004-present

Regulatory Consultant: National Enrichment Facility
Albuquerque, New Mexico
January, 2004 –January 2011

Policy Consultant: Aquila/Canberra, Inc.
Albuquerque, New Mexico
July, 2003 - 2006

Land Use Consultant: New Mexico State Land Office
Santa Fe, New Mexico
June 2003- July 2005

Regulatory Consultant: Cogema, Inc.
Bethesda, Maryland
August, 2002 - 2003

Regulatory Impact Consultant:	Hicks & Co. Austin, Texas January, 2002-2009
Regulatory Consultant:	American 3CI Dallas, Texas February 2002-March 2004
Regulatory Consultant:	CTAC Carlsbad, New Mexico U.S. DOE/WIPP Site January 2002-2003
Regulatory Consultant:	Moncrief Oil Company Fort Worth, Texas Wind River Basin Wyoming August 2001-2003
Regulatory Impact Consultant:	Edwards Aquifer Authority San Antonio, Texas June 2000-2009
RCRA Permit Consultant: (Sub-title C)	Westinghouse / U.S. Dept. of Energy WIPP Facility Carlsbad, New Mexico September 2000-December 2001
Expert Witness (remediation):	Bramblett & Bramblett El Paso Texas 2000-2001
Environmental Consultant: (Regulatory Compliance)	CRI, Inc. Hobbs, New Mexico January 2000-2006
Environmental Consultant: (Site Assessment)	Raymond G. Sanchez and Bob Desiderio Attorneys at Law Albuquerque, New Mexico February, 2000-February 2001

**Environmental Consultant:
(Water Development Strategy)**

Kemp- Smith Law Firm
El Paso, Texas
February, 2000-2006

**Environmental Consultant:
(DOE Policy)**

Lea County, New Mexico
1999- April 2000

**Environmental Consultant:
(Oilfield Contamination
Assessment-Expert Witness)**

Chandler and Associates, Lufkin, Tx
Spivey & Ainsworth, Austin, Tx
In Re: Martha Oilfield (Paintsville, Kentucky)
July, 1998-2009

**Environmental Consultant:
(Oilfield Contamination
Assessment-
Expert Witness)**

Phillips Petroleum
Borger Refinery (Tx)
Bartlesville, Oklahoma
1997-1998

**Environmental Consultant:
(Surface Water Protection-
Expert Witness)**

Richey Oil Company
Tyler, Texas
(Hudspeth Co. Texas) 1997-1998

**Environmental Consultant:
(Remediation Estimates-
Expert Witness)**

“Triangl” (sic) Equities
El Paso, Texas
1997-1998

**Environmental Consultant:
(RCRA/RAD Regulation)**

Waste Control Specialists, LLC.
Pasadena, Texas 1995-2000

**Environmental Consultant:
(Land Use Analysis)**

Santa Teresa Development, Inc.
February, 1986 to 1994

**Environmental Consultant:
(Landfill Evaluation)**

El Paso County Commissioner's Court
El Paso, Texas
1989 to 1991

Environmental Permit Consultant:

R.R.I. (Waste Disposal)
El Paso, Texas
June 1990-present

(Landfill Site Selection, Permitting)	(Purchased in 1999 by Waste Connections, Inc.)
Biomedical Waste Technology Development: (Regulatory Consultant)	Med-Compliance Services El Paso, Texas February, 1991-1999
Environmental Consultant: (Land Use)	Horizon Environmental Services Austin, Texas 1995-1996
Director, Environmental Projects:	Rio Grande Council of Governments El Paso, Texas March 1987-July, 1989
Instructor: (Adjunct)	New Mexico State University Land Use Analysis Las Cruces, New Mexico 1988
Principal Planner	Sub-Land, Inc. El Paso, Texas 1986-1987
Senior Policy Analyst / Land Use Analyst:	Espey, Huston & Associates, Inc Austin, Texas 1984-1986
Division Chairman: (Interim)	Social Sciences Wayland University Plainview, Texas 1983
Lecturer - Budgeting and Forecasting:	MPA Program, Texas Tech University Lubbock, Texas 1983
Research Associate:	Center for Energy Research Texas Tech University Lubbock, Texas 1979

Lecturer - Technology Assessment: Department of Industrial and Systems Engineering (Doctoral Program)
Texas Tech University
Lubbock, Texas
1979

Assistant Division Chairman: Public Administration/Systems
Wayland University
Plainview, Texas
1978-1983

Administrative Head/Interim Director: Computer Services
Wayland College
Plainview, Texas
1976-1978

Instructor - Public Policy: Department of Political Science
Texas Tech University
Lubbock, Texas
1976

Assistant to City Manager: City of Plainview, Texas
1976

Research Assistant, Stochastic Models: Frederick Hartmann, Alfred Thayer Mahan Professor of Maritime Strategy
Naval War College
1975

Instructor- Department of Anthropology/Sociology: Department of Anthropology/Sociology
Wayland College
Plainview, Texas
1971-1974

Research Assistant: Department of Anthropology/Sociology
Texas Tech University
Lubbock, Texas
1970-1971

Technical Writer: Litton Industries
Lubbock, Texas
1969

Education: (Major Fields)

PhD: Systems Theory and Environmental Policy
Dissertation Topic – Typological Constructs
(Environmental Policy Issue—Environmental Resources Management)
Texas Tech University
Lubbock, Texas
August, 1985

MA: Anthropology/ Sociology/ Public Policy Analysis
Thesis Topic – Ideal Typology Development
Texas Tech University
Lubbock, Texas
1971

BA: Anthropology / Biology / Journalism
Texas Tech University
Lubbock, Texas 1969

Advisory Committees:

New Mexico Environment Department, Draft Dairy Regulation Advisory Committee, June 2009 to January 2011.

New Mexico Environment Department, Environmental Justice Planning Committee, December, 2003 to 2006.

New Mexico Governor-Elect Bill Richardson Transition Team Chairman (Tri-Chair) for the New Mexico Environment Department, November 14, 2002 to January 31, 2003.

New Mexico Environment Department Radioactive Materials Fees Advisory Committee (Waste Management and Disposal Industry Representative), May 1, 2000 to December 31, 2003.

USEPA Environmental Justice Advisory Council/ SWANA-- Waste Transfer Station Working Group, 1999 to May, 2001

New Mexico Environment Department, Tire Recycling Advisory Committee, 1995-1996

New Mexico Environment Department, Solid Waste Regulations Revision Advisory Committee, August - December, 1993

Rio Grande Council of Governments, Regional Solid Waste Management Plan (Far West Texas Planning Region), 1993

El Paso City/County Consolidated Data Processing Advisory Board - Oversight of computer operations for consolidated system, 1989 - 1991

Awards:

Solid Waste Association of North America (SWANA) Landfill Excellence Award for Best Landfill Operation in North America, 1997 (Coordinated effort for facility operation and evaluation).

Outstanding Contribution Award - Environmental Design Contest, Waste Education Research Consortium, (Los Alamos National Laboratory, Sandia National Laboratory, University of New Mexico, New Mexico Tech, New Mexico State University and U.S. Department of Energy) May, 1993.

Outstanding Graduate Student Teacher of the Year, Texas Tech University, 1976.

George Mahon Congressional Scholarship Award for Graduate Study of Public Policy, 1974-1975.

Joint Graduate Student/Graduate Faculty Research Grant, "Development of Dis-aggregative Analysis for Decomposition of Large Data Sets", Texas Tech University, 1974.

Technical Reports/Papers/ Pre-Filed Direct Testimony and Related Documents:

Note: All of the Espey-Huston (EH&A) reports and all of the regulatory assessments prepared for the Edwards Aquifer Authority were prepared in collaboration with multi-disciplinary teams of experts. Many of the documents listed here are proprietary and confidential and cannot be released for review. All of the pre-filed testimony listed here is, however, publicly available and can be located on the Texas PUC Interchange.

Pre-filed Direct Testimony in re: Application of ONCOR Electric Delivery Company for Application for a Certificate of Convenience and Necessity for a Proposed Electric Transmission Line in Denton, Tarrant and Wise Counties, Texas prepared for the City of Haslet and the Blue Mound Alliance (PUC Docket No. 42087) June 9, 2014.

Pre-filed Direct Testimony in re: Application of Entergy Texas, Inc. for Application for a Certificate of Convenience and Necessity for a Proposed Transmission Line in Grimes and Montgomery Counties prepared for the Law Firm of Gresham & Braun, PLLC on behalf of Ray L. Audas, et al., Four S Investments, Henry Bethea and Jeff and Peggy Fye (SOAH Docket No. 473-14-0551, PUC Docket No. 41718) March 25, 2014.

Pre-filed Direct Testimony in re: Application of Texas-New Mexico Power Company to Amend its Certificate of Convenience and Necessity for the Proposed Westminster 138kV Transmission Line in Collin County, Texas prepared for the Law Firm of Braun & Gresham on behalf of Wayne "Skip" Hill, et al., Michael Bradley Nevil and Brunhild Investment, Inc. (SOAH Docket No.473-14-0807, PUC Docket No. 41756) February 13, 2014.

Pre-Filed Cross Rebuttal Testimony in re: Application of Electric Transmission Texas, LLC to Amend its Certificate of Convenience and Necessity for the Proposed Rio Lobo to Rio Bravo to North Edinburg 345 kV Double Circuit Transmission Line in Webb, Zapata, Jim Hogg, Brooks, Starr, and Hidalgo Counties, Texas prepared for the Law Firm of Ewell, Bickham, and Brown on behalf of The East Wildlife Foundation (SOAH Docket No. 473-13-0846, PUC Docket No. 40728) February 12, 2013

Pre-Filed Direct Testimony in re: Application of Southwestern Public Service Company to Amend a Certificate of Convenience and Necessity for a Proposed Transmission Line within Hale, Floyd, Motley, Cottle, Briscoe, Hall, Childress, Donley, Collingsworth, and Wheeler Counties, Texas prepared for the Law Firm of Zach Brady & Co. on behalf of the Cogdell Trust (SOAH Docket No. 473-11-5978, PUC Docket No. 38877, Public Utility Commission of Texas) September 23, 2011.

Lea County, New Mexico Voluntary Remediation Program Application and Supporting Ground Water Documentation, submitted to the New Mexico Environment Department ("NMED") May, 2011. Covenant Not to Sue issued by NMED September, 2011.

Pre-Filed Direct Testimony in re: Wind Energy Transmission Texas, LLC Proposed Long Draw to Sand Bluff, Sand Bluff to Divide, and Sand Bluff to Bearkat 345 kV CREZ Transmission Lines in Borden, Coke, Glasscock, Howard, Mitchell, & Sterling Counties, Texas prepared for the Law Firm of Stubbeman, McRae, Sealy, Laughlin & Browder on behalf of John B. Phillips, Skipper Driver, and Dane Driver (SOAH Docket No. 473-43-1266, PUC Docket No. 38825), January, 2011.

Pre-Filed Direct Testimony in re: ONCOR Willow Creek-Hicks 345-kV CCN for a CREZ Transmission Line in Denton, Parker, Tarrant and Wise Counties, prepared for the Law Firm of Herrera & Boyle on behalf of Group of Allied Land Owners (SOAH Docket No.473-10-4789, PUC Docket No. 38324), August 2010.

Pre-Filed Direct and Cross Rebuttal Testimony in re: Lone Star Central A to Central B to Sam Switch to Navarro CCN and Route Analysis, prepared for the Law Firm of Herrera & Boyle on behalf of the Ioni Creek Conservation Group (SOAH Docket No. 473-10-4398, PUC Docket No. 38230), August 2010.

Pre-Filed Direct Testimony in re: ONCOR Riley-Krum 345-kV CCN Route Study and Environmental Assessment, prepared for the Law Firm of Herrera & Boyle on behalf of the Clear Creek Preservation Coalition (SOAH Docket No. 473-10-4109, PUC Docket No. 38140), June 2010.

Pre-Filed Direct and Cross Rebuttal Testimony in re: LCRA CCN for a proposed 345-kV Transmission Line from Gillespie to Newton prepared for the Law Firm of Locke, Lord, Bissel and Lydell on behalf of CJ Ranch, Garrett Ranch, Point Peak resort and Jean Mueller (PUC Docket No. 37448), March 2010.

“Site Suitability Analysis for proposed Big Bear Oil and Gas Waste Disposal Facility (Section 32, T17S, R31E, NMPM, Eddy County New Mexico,” prepared for Big Bear, Inc., Lovington, New Mexico, December 2009.

“High Desert Site Suitability Analysis for a Sub-Title D Disposal Facility-Otero County, New Mexico,” prepared for WCI, Inc., Folsom, California, December 2008.

“Site Selection/Suitability Analysis for Proposed DOE Global Nuclear Energy Partnership (GNEP) Consolidated Fuel Reprocessing Facility and an Advanced Burner Reactor,” prepared for AREVA, Washington Group International and the Eddy-Lea Energy Alliance, December 2007.

“Volume IV: Siting and Land Use” IN THE MATTER OF THE APPLICATION OF CAMINO REAL ENVIRONMENTAL, INC. FOR A SOLID WASTE FACILITY PERMIT FOR THE CAMINO REAL LANDFILL, prepared for WCI, Inc. Folsom, California, March 2006.

“Rhino Landfill Status: Comprehensive Report to Otero County Commissioners,” presented on behalf of WCI, Inc., Folsom, California, November 2, 2005.

“Summary and Evaluation of New Mexico Oil Conservation Division Process and Procedure Under OCD Rule 711(B) In Re: Proposed Permits for Solid Waste Disposal for Artesia Aeration and Gandy Marley, Inc., prepared for CRI, Inc. Hobbs, New Mexico, June, 2005.

“Proposed Findings of Fact” In Re: THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING THE APPLICATION OF GANDY MARLEY, INC. TO MODIFY NMOCD PERMIT NO.NM- 01-019... Case No. 13,480, prepared for CRI, Inc. Hobbs, New Mexico, submitted to OCD June 24, 2005.

In Re: APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A 138KV TRANSMISSION LINE IN KENDALL AND BEXAR COUNTIES: SOAH DOCKET NO. 473-04-7609; P.U.C. DOCKET NO. 29684, Expert Testimony presented in HEARING ON THE PROPOSED ALTERNATIVE FOR THE HILL COUNTRY PROJECT, June 27- July 2, 2005.

In Re: APPLICATIONS OF SANDOVAL COUNTY TO EXTEND AND MODIFY SOLID WASTE PERMITS FOR THE SANDOVAL COUNTY REGIONAL LANDFILL BEFORE THE NEW MEXICO ENVIRONMENT DEPARTMENT, Expert Testimony presented on Land Use and Site Suitability Criteria presented on May 11, 2005. (Permits Granted by NMED on June 17, 2005).

In Re: APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A 138KV TRANSMISSION LINE IN KENDALL AND BEXAR COUNTIES: SOAH DOCKET NO. 473-04-7609; PUC DOCKET NO. 29684, Expert Testimony pre-filed on December 8, 2004, Austin, Texas.

In Re: APPLICATION OF LCRA TRANSMISSION SERVICES CORPORATION TO AMEND ITS CERTIFICATE OF CONVENIENCE AND NECESSITY FOR A 138KV TRANSMISSION LINE IN KENDALL AND BEXAR COUNTIES: SOAH DOCKET NO.473-04-7609; PUC DOCKET NO. 29684, Expert Testimony presented in HEARING ON ADEQUACY OF ROUTES, November 10, 2004, Austin, Texas.

“Siting and Land Use; Volume IV, Sandoval County Landfill Application,” prepared for Sandoval County, New Mexico under contract to Gordon Environmental, Albuquerque, New Mexico, July, 2004.

“Regulatory Impact Assessment for Proposed Amendments to Rule 711 (Groundwater Withdrawals), Subchapters E (Groundwater Withdrawal Permits), F (Standard Groundwater Withdrawal Conditions), G (Groundwater Available for Permitting; Proportional Adjustment; Equal Percentage Reduction), L (Transfers), and M (Meters; Alternative Measuring Methods; and Reporting): Rule 715 (Comprehensive Water Management Plan Implementation), Subchapters A (Definitions) and D (Demand Management and Critical Period Management Rules): Rule 702 (General Definitions): Rule 709 (Fees), Subchapter D (Aquifer Management Fees)” prepared for the Edwards Aquifer Authority under contract to Hicks and Co./ Kemp Smith, P.C., San Antonio, Texas, July 2004.

“New Mexico Environment Department: Transition Task Force—Follow-Up Analysis of NMED Issues Raised in December 2002 Transition Team Report” prepared for the New Mexico Governor’s Office, Santa Fe, New Mexico, December 9, 2003.

“Regulatory Impact Assessment for Proposed Rules Chapter 711 (Groundwater Withdrawal Permits) Subchapters E (Groundwater Withdrawal Permits), G (Groundwater Available for Permitting; Proportional Adjustment; Equal Percentage Reduction) and K (Additional Groundwater Supplies)” prepared for the Edwards Aquifer Authority under contract to Hicks & Co./ Kemp Smith, P.C., San Antonio, Texas, November 2003.

“Draft Surface Resource Protection Guidelines for Oil and Gas Operations on New Mexico State Trust Lands” prepared for the New Mexico State Land Office, Santa Fe, New Mexico, October, 2003.

“Regulatory Impact Assessment for Proposed Rules Chapter 715 (Comprehensive Water Management Plan Implementation Rules) Subchapters A (Definitions), B (Variance Procedures) and C (Groundwater Conservation and Reuse Rules) prepared for the Edwards Aquifer Authority under contract to Hicks & Co./ Kemp Smith, P.C., San Antonio, Texas, July, 2003.

“New Mexico Environment Department: Transition Task Force Report” prepared for the Hon. Bill Richardson, Governor-Elect, State of New Mexico, Santa Fe, New Mexico, December, 2002.

“Regulatory Impact Assessment for Proposed Rule Chapter 711 (Groundwater Withdrawal Permits) Subchapter J (Aquifer Recharge, Storage and Recovery Projects) prepared for the Edwards Aquifer Authority under contract to Hicks & Co./Kemp Smith, P.C., San Antonio, Texas, September, 2002.

“Regulatory Impact Assessment of Alternative Proposed Rule 715 (Comprehensive Water Management Plan Implementation Rules) Subchapter A (Definitions) and D (Demand Management and Critical Period Management Rules) [15 Percent Reduction in Stage IV Critical Period Management Groundwater Withdrawals] prepared for the Edwards Aquifer Authority under contract to Hicks & Co./Kemp Smith, P.C., San Antonio, Texas, September, 2002.

“Regulatory Impact Assessment for Proposed Rule Chapter 713 (Water Quality) Subchapters A (Definitions), B (General Provisions), C (Well Construction, Operation and Maintenance) and D (Abandoned Wells; Well Closures) prepared for the Edwards Aquifer Authority under contract to Hicks & Co./Kemp Smith, P.C., San Antonio, Texas, August, 2002.

“Regulatory Impact Assessment for Proposed Rule Chapter 715 (Comprehensive Water Management Plan Implementation Rules) Subchapters A (Definitions) and D (Demand Management and Critical Period Management Rules) prepared for the Edwards Aquifer Authority under contract to Hicks & Co./Kemp Smith, P.C., San Antonio, Texas, July, 2002.

“Regulatory Impact Assessment for Proposed Rule Chapter 713 Water Quality; Subchapter A (Definitions) and Subchapter G (Recharge Zone Protection—Phase I Regulated Substance Tank Rules)” prepared for The Edwards Aquifer Authority under contract to Hicks & Co./Kemp Smith, P.C., San Antonio, Texas, June 2002.

“Disposal of Non-Weapons Materials: GTCC Privatization Efforts.” Prepared for Aquila, Inc., July 2001.

“Revised Cost Estimates for Remediation of Contaminated Sites on Cantrell et al. Properties in Johnson and Lawrence Counties, Kentucky (Martha Oilfield)” prepared for the Chandler Law Offices and Spivey-Ainsworth Law Firm, July 5, 2000.

“Final Site Assessment and [14 Day Report] for Maloof Holdings at 100 Industrial Avenue, Albuquerque, N.M.”, prepared for Raymond G. Sanchez and Robert Desiderio. Submitted to the New Mexico Environment Department, UST Bureau, May 19, 2000.

“Disposition of Pre-Subtitle D Landfills”, presented at the SWANA Arid Landfill Symposium, Albuquerque, New Mexico, April 12, 2000.

“Preliminary Cost Estimates for Remediation of Contaminated Sites on Cantrell et al. Properties in Johnson and Lawrence Counties, Kentucky (Martha Oilfield)”, prepared for the Chandler Law Offices and Spivey-Ainsworth Law Firm, May 25, 1999.

In Re: APPLICATION FOR SOLID WASTE PERMIT FOR LEA COUNTY REGIONAL LANDFILL BEFORE THE NEW MEXICO ENVIRONMENT DEPARTMENT, Presented Expert Testimony on Land Use and Site Suitability Criteria, Eunice, New Mexico October 15, 2005.

“Permit Application for Lea County Solid Waste Authority Regional Landfill”, prepared for Lea County Solid Waste Authority, Lea County , New Mexico, submitted to Solid Waste Bureau, New Mexico Environment Department (NMED), January, 1998 (Permit granted December, 1998).

“Evaluation of Proposed Longo Construction, Inc. Sludge Application Project (27,000 acres) in southern Hudspeth County, Texas”, prepared for Harlan Richey, March 1, 1998.

In Re: APPLICATION FOR SOLID WASTE RECYCLING AND DISPOSAL PERMIT FOR CAMINO REAL ENVIRONMENTAL CENTER BEFORE THE NEW MEXICO ENVIRONMENT DEPARTMENT, Presented Expert Testimony on Land Use, Socioeconomics, Demographics, Epidemiological Statistics and Site Suitability Criteria, Sunland Park, New Mexico, June 15, 1997.

“Permit Application for Camino Real Environmental Center Regional Landfill and Recycling Center, (Sunland Park, New Mexico), prepared for RRI, Inc., El Paso, Texas, submitted to Solid Waste Bureau, New Mexico Environment Department (NMED), Nov. 1996. (Permit granted August 1997).

"Changing Patterns in Regulatory Frameworks for Incinerator Technology", presented to National Solid Waste Management Association - Colorado/New Mexico Annual Meeting, Telluride, Colorado, October 11 - 12, 1996.

"Regulation of Incinerator Technology in New Mexico" (joint presentation with New Mexico Environment Department) presented to Interim Committee on Radioactive and Hazardous Waste - New Mexico Legislature, Santa Fe, New Mexico, September 12, 1996.

"Environmental Justice and Landfill Siting in New Mexico", with Hicks & Co. co-author -contract research for C.R.E.C., August, 1996.

"Las Azaleas Constructed Wetlands - Environmental Assessment", prepared for El Paso County, Texas Lower Valley Water District Authority. Submitted to Texas Water Development Board, August, 1994.

"U. S. Bureau of Reclamation as Regional Water Manager - Rio Grande Project", written testimony presented to Senate Sub Committee on Natural Resources (Senator Bill Bradley, Chair) U.S. Senate, Washington, D.C., May, 1994.

"Plainview Independent School District (Hale County, Texas) Redistricting Submission", Prepared for Plainview ISD, Board of Trustees, Submitted to U.S. Department of Justice, Voting Rights Section, August 1993. Pre-clearance Granted.

"Permit Application for Carlsbad/Eddy County, New Mexico Regional Landfill", prepared for Carlsbad/Eddy County, submitted to Solid Waste Bureau, New Mexico Environment Department (NMED), July 9, 1993. (Permit granted 1994).

Nu-Mex Landfill Supplementary Data Report/Documentation of Compliance, Submitted to U.S. Environmental Protection Agency Region 6, Prepared for JOAB, Inc., Sunland Park, New Mexico, May 28, 1993.

"Final Permit Application for Regulated Medical Waste Processing Facility - Albuquerque, New Mexico", prepared for Med Compliance Services, Inc., Submitted to the Solid Waste Bureau, NMED, May 1, 1993. Permit granted January 1994.

"Brownfield Independent School District (Terry County, Texas) Redistricting Submission", Prepared for Brownfield ISD Board of Trustees, Submitted to U.S. Department of Justice, Voting Rights Section, January 1993. Pre-clearance Granted.

"Floydada Independent School District (Floyd County, Texas) Redistricting Submission", Prepared for Floydada ISD Board of Trustees, Submitted to U.S. Department of Justice, Voting Rights Section, December 1992. Pre-clearance Granted.

"Preliminary Site Selection/Site Characterization of Proposed Carlsbad/Eddy County, New Mexico Regional Landfill", Prepared for City of Carlsbad/Eddy County, New Mexico, Submitted to Solid Waste Bureau, NMED, August 10, 1992.

"Draft Permit Application for Bio-Medical Waste Processing Facility - Albuquerque, New Mexico", prepared for Med. Compliance Services, Inc., Submitted to the Solid Waste Bureau, NMED, July 15, 1992.

"Documentation in Support of a Bio-Medical Waste Transfer Facility, Las Cruces, New Mexico", Prepared for Med. Compliance Services, Inc., Submitted to NMED and City of Las Cruces, July 1, 1992.

"Transportation Contingency Plan for Bio-Medical Waste Services", Prepared for Med. Compliance Services, Inc., Submitted to the Solid Waste Bureau, NMED, June 15, 1992.

"Documentation in Support of a Proposal to Provide Bio-Medical Waste Services to the New Mexico Hospital Association", Prepared for Med. Compliance Services, Inc., Submitted to Hospital Services Corporation, May 15, 1992.

"Alternative Redistricting Plans for the City of Brownfield, Texas - City Council Precincts", Prepared for the City of Brownfield, Texas, May 15, 1992. Pre-clearance Granted.

"Alternative Redistricting Plans for the Post Independent School District - School Board Trustee Districts", Prepared for the Post Independent School District (Garza County, Texas), June 30, 1992. Pre-clearance Granted.

"Land Use Analysis of Proposed Sunland Park Annexation of Santa Teresa Commercial District" - Expert Testimony Before the New Mexico Boundary Commission, January 25, 26, 1992 for Santa Teresa Community Development, Inc.

"Border Environmental Issues", Prepared Testimony Delivered to the New Mexico Secretaries of Environment and Economic Development on Potential Border Crossings at Santa Teresa and Sunland Park, New Mexico, Las Cruces, New Mexico, January 14, 1992.

"Terry County Commissioner's Precinct Redistricting Submission", Prepared for Terry County, Texas, Submitted to U.S. Department of Justice, Voting Rights Section, January, 1992. Pre-clearance Granted.

"Environmental Assessment of Proposed Leviton Site", (Airport Business Park at Santa Teresa, New Mexico), prepared for C. L. Crowder Investment Company, Santa Teresa, New Mexico, September 19, 1991.

"Proposal to Replace MCS Incinerator" (to NMED), Prepared for Med. Compliance, Inc., El Paso, Texas, December, 1991.

"Prepared Testimony on Impacts of Buffer Zones in NMED Proposed Solid Waste Rules", Delivered to New Mexico Environmental Improvement Board - Roswell Hearings, November, 1991.

"Special Use Permit Application for Bio-Medical Waste Processing Facility", submitted to Doña Ana County for Med. Compliance, Inc., El Paso, Texas, September 16, 1991.

Summary of Findings for Nu-Mex Landfill Application Hearing, ("New Mexico Environment Department"), Prepared for JOAB, Inc./Med. Compliance, Inc., El Paso, Texas, August, 1991.

"Compliance Schedule for Bio-Medical Incinerator Pursuant to New Mexico Environment Department Air Quality Control Regulation 2020", Prepared for Med. Compliance, Inc., El Paso, Texas, August 1, 1991.

"Air Quality Permit Application for Proposed Microwave Bio-Medical Waste Processing Facility", Submitted to NMED (Air Quality Control Bureau) for Med. Compliance, Inc. El Paso, Texas, August 1991.

"Who Needs an Assessment?", Presented at National Association of Engineering Geologists Annual Meeting, Chicago, Illinois, October 4, 1991.

"Environmental Assessment of Proposed Belen-Rio Grande Railroad Bridge", prepared for Southern Pacific Transportation Company, San Francisco, California, August, 1991.

"Environmental Assessment of Proposed Sparks Water Delivery System", prepared for El Paso County Lower Valley Water District, El Paso, Texas, June, 1991.

"Environmental Assessment (Socioeconomics and Land Use Issues) for Proposed Brownsville Channel Dam", Prepared for Brownsville Water Authority under contract to Horizon Environmental, Brownsville, Texas, February, 1991.

"Environmental Information Documents for Santa Teresa International Project", Prepared for Charles Crowder, Santa Teresa, New Mexico, August, 1990.

"Status Report and Proposed Action -- Fabens Landfill", Prepared for El Paso County Commissioner's Court, El Paso, Texas, March 14, 1990.

"Environmental Assessment of Proposed El Paso County River Park", Prepared for El Paso County, Submitted to Texas Parks and Wildlife Department, January 31, 1990.

"Muleshoe Independent School District Redistricting Submission", Prepared for MISD, Submitted to U.S. Department of Justice Voting Rights Section, January, 1990. Pre-clearance Granted.

"An Evaluation of Alternatives for Providing Water Infrastructure to Unplanned Sub Divisions", Prepared for Presentation at the Conference on Sanitation Problems in the Colonias Sponsored by the Institute of Regional Studies, San Diego State University, October 25, 1989, El Paso, Texas.

"Groundwater Discharge Plan/Extension: Mesquite Site, Doña Ana County, New Mexico", Prepared for Doña Ana County Commissioners, Las Cruces, New Mexico, Submitted to NMED, Santa Fe, New Mexico, August, 1989.

"Testimony Before Special Committee of New Mexico Legislature on Solid Waste Management Problems - Site Selection Criteria on Federal Land", Las Cruces, New Mexico, June, 1989.

"Documentation in Support of Detachment/Annexation of Section 40 from CISD to AISD - Land Use and Socioeconomic Considerations", Prepared for Robert Garrett, Coldwell Banker/Terra Finis, Amarillo, Texas, February, 1989.

"Report of the Special Committee on El Paso City/County Consolidation", Prepared for the El Paso County Commissioner's Court and El Paso City Council, January, 1989.

Written Statement Submitted at Technical Hearings Before the New Mexico Environmental Improvement Division Regarding Proposed New Mexico Solid Waste Management Regulations, Santa Fe, New Mexico, November 17, 1988.

"Mapping Alternatives for Intergovernmental Cooperation in an Environment Characterized by Intergovernmental Conflict", Prepared for Presentation at the American Society for Public Administration, Region VII Conference, El Paso, Texas, November 4, 1988.

"Environmental Information Document (EID) for Water Delivery Plans for the El Paso Lower Valley (Colonias)", Prepared for the El Paso County Lower Valley Water District Authority (1988) for Submission to U.S. Bureau of Reclamation. (EID Approved by Bureau of Reclamation November 4, 1988).

"Fiscal and Land Use Impact Assessment of Lubbock-Cooper Independent School District Boundary Modification", Prepared for Lubbock-Cooper ISD (Texas), June, 1988.

"Preliminary Market Analysis for General Dynamics/El Paso Sand Facility", Prepared for El Paso Sand, Inc., El Paso, Texas, 1988.

"Comparative Land Use Analysis: Santa Teresa, New Mexico, (2400 Acres)", Prepared for Wilson & McIlvaine, Chicago, Illinois, 1988.

"Site Suitability Study for Superconducting Magnetic Energy Storage System - ETM", Prepared for El Paso Electric Company, El Paso, Texas, 1988.

"Waste Management Plan for Doña Ana County, New Mexico", prepared for Doña Ana County Commissioners, Las Cruces, New Mexico, 1988.

"Groundwater Discharge Plan: Mesquite Landfill Site, Doña Ana County, New Mexico", Prepared for Doña Any County Commissioners, Las Cruces, New Mexico, Submitted to New Mexico Environmental Improvement Division, Santa Fe, New Mexico, 1988.

"Evaluation of Mesa Verde Apartment Project Proposal", Prepared for Paul Lyle & Associates, Plainview, Texas, 1988.

"Southern New Mexico Superconducting Super Collider Site Proposal", DOE Submission, September 1987.

"Far West Texas (Hudspeth County), Superconducting Super Collider Site Proposal", DOE Submission, September, 1987.

"Redistricting Submission (Single Member Election Precincts), Floydada Independent School District", U.S. Department of Justice, Voting Rights Section, 1987. Pre-clearance Granted,

"Preliminary Feasibility Report on Market Alternatives - ASARCO El Paso Property", Prepared for Nebyn Peterson & Associates, Houston, Texas, 1986.

"Comprehensive Evaluation of Infrastructure: Sunland Park/Santa Teresa, New Mexico", Prepared for Santa Teresa Associates, Santa Teresa, New Mexico, 1986.

"Preliminary Feasibility Analysis of Land Use Alternatives - Hueco Ranch (50,000 Acre Parcel)", Prepared for R.O. Anderson, Diamond A Cattle Company, Roswell, New Mexico, 1986.

"Feasibility Analysis of Knapp Properties Development - Franklin Mountain Parcels", Prepared for Texas State Attorney General, In Re: Knapp vs State of Texas (Parks and Wildlife Department), 1986.

"Highway Diversion Channel Modification Study", Prepared for Duke, Inc., Submitted to Army Corps of Engineers, Ft. Worth, Texas, March, 1986.

"Population Projection Update, South Texas Nuclear Power Plant (STP, ER-OL)", Prepared for Houston Light & Power, EH & A Document 1985.

"Montecello-Winfield Mine Area Cultural Resources Model", Prepared for TUMCO, EH & A document, 1985.

"Possum Kingdom Inn and Country Club Feasibility Study", Prepared for Leo Appleby, Mineral Wells, Texas, EH & A Document, 1985.

"Environmental Assessment of Osuna Road Extension", Prepared for City of Albuquerque, EH & A document, 1985.

"Environmental Assessment of Infrastructure Extension on Sandia Pueblo", Prepared for Bureau of Indian Affairs, EH & A Document, 1985.

"Existing Environment of the Region of Interest for LCRA's Proposed Deanville Project (Land Use and Socioeconomics)", Prepared for Lower Colorado River Authority, EH & A Document, 1985.

"Final Report on Pre-Construction Monitoring of Brown Pelican and Migratory Waterfowl Movements Near CP & L's Proposed Laguna Madre Transmission Line", Prepared for Central Power & Light, EH & A Document, 1985.

"City of Brownfield City Council Redistricting Submission", Prepared for Mayor and City Council of Brownfield, Texas, Submitted to U.S. Department of Justice, Voting Rights Section, May, 1985. Pre-clearance Granted,

"Existing Environment of the Region of Interest for LCRA's Proposed Round Top Project, Phase II, Volume I & II (Land Use and Socioeconomics)", Prepared for Lower Colorado River Authority, EH & A Document, 1985.

"Brownfield Independent School District Redistricting Submission", Prepared for BISD, Submitted to U.S. Department of Justice, Voting Rights Section, May, 1985. Pre-clearance Granted.

"Land Use Assessment for Proposed Comanche Peak Nuclear Power Plant Transmission Lines", Prepared for Texas Power & Light, EH & A Document, 1985.

"City of Littlefield City Council Redistricting Submission", Prepared for Mayor and City Council of Littlefield, Texas, Submitted to U.S. Department of Justice, Voting Rights Section, May, 1985. Pre-clearance Granted.

"Littlefield Independent School District Redistricting Submission", Prepared for LISD, Submitted to U.S. Department of Justice Voting Rights Section, February, 1985. Pre-clearance Granted.

"Plainview Independent School District Redistricting Submission", Prepared for PISD, Submitted to U.S. Department of Justice, Voting Rights Section, January, 1985. Pre-clearance Granted.

"Response to the Northwest Area Growth Plan", Prepared for the Austin Chamber of Commerce, EH & A Document, 1984.

"Capital Recovery Fees and the Problem of Equity", Proceedings, Western Governmental Research Association, Palm Springs, California, November 16 - 19, 1984.

"Exhibit E, Land Management, Economic and Recreation Resources", prepared for Brazos River Authority, Morris Sheppard Hydroelectric Dam F.E.R.C. Permit, EH & A Document, August, 1984.

"Environmental Update, South Texas Project (Nuclear Power Plant) (31,400 square miles)", Prepared for Houston Light & Power, EH & A Document, 1984.

"Typology Construction and Case Survey Methodology", Proceedings, Western Social Science Association, San Diego, California, April 27, 1984.

"An Economic and Social Assessment of Industrial Development Potential - Plainview, Texas", Southwest Polimetrics Report, No. 165, April, 1984.

"Market Analysis Inventory - Pioneer Hi-Bred, Intl., Inc.", Southwest Polimetrics Report No. 164, May, 1984.

"Plainview city Council Redistricting Proposal", Southwest Polimetrics Report No. 161, February 1984. Pre-clearance Granted.

"Lamb County Redistricting Submission", Southwest Polimetrics Report No. 160, October, 1983. Pre-clearance Granted.

"Floyd County Redistricting Submission", Southwest Polimetrics Report No. 155, August, 1983. Pre-clearance Granted.

"Swisher County Redistricting Submission", Southwest Polimetrics Report No. 140, June, 1983. Pre-clearance Granted.

"Deaf Smith County Redistricting Submission", Southwest Polimetrics Report. No. 133, April, 1983. Pre-clearance Granted.

"Hale County Redistricting Submission", Southwest Polimetrics Report No. 120, February, 1983. Pre-clearance Granted.

"Terry County Redistricting Submission", Southwest Polimetrics Report No. 101, November, 1982. Pre-clearance Granted.

"Housing Needs in Plainview", HUD Application for Community Development, September, 1982.

"Hale County Redistricting Submission", Prepared for Hale County Commissioner's Court, Submitted to U.S. Department of Justice, Voting Rights Section, November, 1979. Pre-clearance Granted.

"Biomass Transfer Systems", Report to Office of Technology Assessment, August, 1979.

"Rehabilitation Technologies - A Technology Assessment", (Research Associate), Texas Tech Press, Prepared for U.S. Department of Health, Education and Welfare, November, 1978.

"Solid Waste Collection Optimization - A Critical Path Approach", Prepared for City of Plainview, Texas, 1978.