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GENERAL CORRESPONDENCE

2007 - 2004

IR0394-1

Keith Innes
Oil Area Manager

MidContinent/Alaska SBU
Chevron North America Exploration
and Production Company
15 Smith Road
Midland, TX 79705
Tel 432 687-7190

July 16, 2007

Mr. Wayne Price
Environmental Bureau Chief
New Mexico Energy, Minerals and
Natural Resources Department
Oil Conservation Division
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Request for Voluntary Action Plan for City of Lovington Water Supply Well Field

Dear Mr. Price:

This letter is a response to your letter to me dated April 13, 2007, in which you requested that Chevron U.S.A., Inc. ("Chevron") develop a voluntary action plan ("VAP") for the City of Lovington (the "City") water supply well field south of Lovington, New Mexico. At that meeting, Chevron agreed that it would review a proposal by New Mexico Oil Conservation Division ("NMOCD") for such work.

As you know, Chevron operates two units underlying the City's water supply field, on which some wells have been producing since the 1920s. In addition, the surrounding area contains a refinery operated by Navajo Refining Company, LP, a major pipeline operated by Plains All-American Pipeline, Inc., numerous wells operated by oil and gas companies other than Chevron, and numerous other oil and gas facilities operated by companies other than Chevron.

As long standing and active community members, our employees understand their role in ensuring Chevron is admired for placing the highest priority on the health and safety of our work force the public and on protection of the environment. Evidence of this commitment can be seen in the ongoing proactive preventive maintenance activities in place in our Lovington Area operations. Our ongoing flowline inspection, testing and replacement project (approximately 35 miles) has increased our system reliability and integrity, resulting in well recognized area leadership in spill reduction. We are going beyond regulatory requirements in the area of mechanical integrity testing of our wellbores. We are currently in the process of plugging at least 11 wells in the area. Our current rapid response isolation, control, containment and remediation efforts have significantly reduced the risk to the environment. Further reliability improvement is being pursued through the ongoing development and deployment of automated monitoring, notification and isolation systems. Additional evidence of Chevron's commitment to leadership in environmental protection can be seen in our Facilities Projects that employ a systematic approach to reducing spill and leak potential though effective inspection and optimization of our centralized fluid processing facilities.

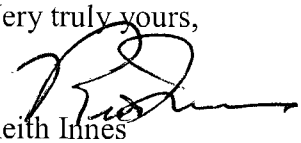
Chevron is committed to a collaborative relationship with the NMOCD and the City to understand and mitigate any significant potential impacts from its operations to the City's water supply wells. We believe that the scope of your original proposal was too broad and would result in only a partial and incomplete study of the area because of all the other non-Chevron potential contamination sources. Our proposal is to narrow the scope of any initial study to the area around Water Well #17, even though there have been no regulatory exceedances of federal or state maximum contaminant levels (MCLs) in any of the wells, and then let the results of that work guide future efforts.

Chevron would like to meet with NMOCD and City representatives to provide what we believe to be an effective and appropriate scope for an investigation into potential Chevron sources of adverse impact to Lovington's water well #17, the only well in which we are aware benzene has been found, albeit in concentrations below MCLs. We propose that this meeting take place in Santa Fe on July31st, 2007. If that date is acceptable to you, please let us know, or propose alternate dates.

Chevron will continue to operate safely, and in compliance with all applicable statutes, regulations, and ordinances. In particular, Chevron will continue to report spills or releases requiring reporting, and will take such actions as are necessary to investigate and remediate events related to its operations occurring on its mineral leaseholds.

We look forward to meeting with you in July.

Very truly yours,



Keith Innes
Manager, Oil Area Operations
Midcontinent/Alaska Business Unit
Chevron U.S.A., Inc.

Cc: Mark Fesmire, NMOCD Director
Chris Williams, NMOCD Hobbs District Supervisor
Pat Wise, Lovington City Manager

ATKINS ENGINEERING ASSOCIATES INC.

October 12, 2006

Tom Dick, PE
Smith Engineering
P.O. Box 2565
Roswell, NM 88202-2565

Re: City of Lovington Ground Water Conditions

Dear Tom,

Enclosed are the ground water level maps, the Post-Mesozoic erosion surface (red bed) map, and the ground water saturated thickness map for Township 16 South, Range 36 East, N.M.P.M. Also enclosed are the data tabulations used for the maps, and various hydrographs for water levels in representative wells across the township. These maps showing ground water conditions should be used to identify potential new municipal well sites for the City of Lovington to drill additional wells to supplement their existing municipal system within this township. The depth to water and water table elevations can be found on the ground water level map. The red bed depths and red bed elevations can be found on the Post-Mesozoic erosion surface map. The saturated thickness of the aquifer can be found on the saturated thickness map. The enclosed data tabulations were used in the mapping.

The enclosed USGS hydrographs for water level observation wells within the Township show no significant water level declines within Township 16 South, Range 36 East, NMPM, except for the southeastern portion of the Township where water level declines are shown at approximately 0.46 feet per year. A water level data tabulation for the USGS observation well at Township 16 South, Range 36 East, Section 23 at .241324 is enclosed. The water level declines in the immediate vicinity of the City of Lovington municipal well field within Sections 25 and 36 are probably higher than the 0.46 feet per year in Section 23 due to the municipal ground water pumpage.

Referring to the saturated thickness map, proposed new well locations within the E½ Section 26 and all of Section 35 may be more feasible due to the 140 foot saturated thickness and due to the adjacent location to the existing City of Lovington well field.

Sincerely,

Jackie D. Atkins, PE, PS
Atkins Engineering Associates, Inc.
jatkins@atkins-ea.com

JDA/taw

Enclosure

(505) 624-2420
FAX: (505) 624-2421

2904 West Second Street
Post Office Box 3156
Roswell, New Mexico 88202-3156

City of Lovington Municipal Wells

Location	Well_No
16.36.25.423	L-4058-S-14
16.36.25.334	L-4058-S-17
16.36.25.322	L-53-A-A
16.36.36.21	L-1702, L-1703 & L-1704-Comb-A
16.36.36.223	L-4058-S-15
16.36.36.421	L-4058-S-16
16.36.36.134	L-4058-S-18
16.36.36.334	L-4058-S-19
16.36.36.24	L-4058-S-23
16.36.36.112	L-4058-S-24
16.36.36.132	L-4058-S-25
16.36.36.244	L-4058-S-26
16.36.35.434	L-4058-S-22
16.36.35.234	L-4058-S-21
16.36.15.114	L-4058-S
16.36.10.2	L-70
16.36.10.232	L-70-S
16.36.10.11 E1/2	L-4058-S-2
16.36.10.242	L-4058-S-12
16.36.9.121	L-4058-S-8
16.36.4 Lot 9 N1/2	L-4058
16.36.4 Lot 11	L-4058-S-5
16.36.4 Lot 5 NE1/4	L-4058-S-6
16.36.4 Lot 5 SE1/4	L-4058-S-9
16.36.4.433	L-4058-S-3
16.36.3.223	L-4058-S-4
16.36.3 Lot 12	L-4058-S-7
16.36.4.41330	L-208
16.36.3.41431	L-208-S

Water Level Data

Location	Land Elevation*	Depth to Water	Water Level Elevation	Date of Measuremnet	Source	Projected
16.36.2.11133	3909.00	65.81	3843.19	2006-02-09	USGS	
16.36.2.413333	3890.00	68.58	3821.42	2001-01-17	USGS	
16.36.4.32232	3922.00	55.80	3866.20	2006-03-08	USGS	
16.36.8.211112	3934.00	62.46	3871.54	2006-01-05	USGS	
16.36.8.433434	3930.00	65.80	3864.20	1996-02-02	USGS	
16.36.11.241131	3886.00	66.00	3820.00	1995-01-05	USGS	P
16.36.15.21132	3895.00	57.80	3837.20	1996-02-23	USGS	
16.36.18.111111	3958.00	54.44	3903.56	2006-01-19	USGS	
16.36.23.241324	3860.00	70.92	3789.08	2006-01-05	USGS	
16.36.2.244	3891.00	83.00	3808.00	2005-9-14	Well Log	
16.36.2.311	3898.00	62.00	3836.00	2002-8-3	Well Log	
16.36.2.431	3888.00	69.00	3819.00	2005-5-13	Well Log	
16.36.13	3920.00	65.00	3855.00	2000-12-26	Well Log	
16.36.3.133	3921.00	63.00	3858.00	2001-1-23	Well Log	
16.36.3.423	3907.00	75.00	3832.00	2003-5-14	Well Log	
16.36.4 N1/2	3928.00	58.00	3870.00	2002-25-2	Well Log	
16.36.4.224	3923.00	50.00	3873.00	2005-7-15	Well Log	
16.36.4.324	3923.00	70.00	3853.00	2005-21-5	Well Log	
16.36.5.43433	3933.00	62.00	3871.00	2001-5-26	Well Log	
16.36.6.13	3966.00	55.00	3911.00	2001-3-29	Well Log	
16.36.8.434	3927.00	61.00	3866.00	2005-7-13	Well Log	
16.36.11.22	3884.00	69.00	3815.00	2005-11-2	Well Log	
16.36.12.133	3885.00	70.00	3815.00	2006-4-3	Well Log	
16.36.12.134	3881.00	73.00	3808.00	2005-5-2	Well Log	
16.36.24.41421	3843.00	100.00	3743.00	2002-3-5	Well Log	
16.36.24.43421	3841.00	100.00	3741.00	2002-3-12	Well Log	
17.36.1.42344	3814.00	80.00	3734.00	2001-4-19	Well Log	
16.36.1.311243	3882.00	76.65	3805.35	1986-2-13	OSE	P
16.36.1.423331	3864.00	68.00	3796.00	1986-2-20	OSE	P
16.36.5.11111	3949.00	67.00	3882.00	1986-2-25	OSE	P
16.36.7.11323	3960.00	61.00	3899.00	1986-1-30	OSE	P
16.36.5.231111	3943.00	71.00	3872.00	1984-1-4	OSE	P
16.36.13.32224	3856.00	65.00	3791.00	1986-2-20	OSE	P
16.36.16.231113	3908.00	68.00	3840.00	1986-2-26	OSE	P
16.36.17.111224	3938.00	66.00	3872.00	1986-2-14	OSE	P
16.36.19.211333	3948.00	76.00	3872.00	1976-3-3	OSE	P
16.36.21.232244	3900.00	70.00	3830.00	1986-2-26	OSE	P
16.36.22.233244	3892.00	82.00	3810.00	1986-2-26	OSE	P
16.36.25.32223	3840.00	93.00	3747.00	1981-4-1	OSE	P
16.36.27.12330	3885.00	71.00	3814.00	1986-2-26	OSE	P
16.36.26.21232	3858.00	76.00	3782.00	1986-2-26	OSE	P
16.36.30.124223	3945.00	83.00	3862.00	1976-3-10	OSE	P
16.36.31.131332	3933.00	65.00	3868.00	1986-2-26	OSE	P
16.36.32.22243	3906.00	77.00	3829.00	1986-2-21	OSE	P
16.36.34.241232	3869.00	72.00	3797.00	1986-2-26	OSE	P
16.36.35.24144	3844.00	89.00	3755.00	1991-2-27	OSE	P
16.36.36.24443	3829.00	114.00	3715.00	2005-10-29	Well Log	

*Note: All land elevations were derived from topo base map plots.

Seismic Shot Hole Data

Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.1.12221 NW	3887	240	3647
16.36.1.12332 NW	3886	180	3706
16.36.1.14114 NW	3884	170	3714
16.36.1.14331 NW	3876	175	3701
16.36.1.14311 SW	3877	200	3677
16.36.1.14442 NW	3880	195	3685
16.36.1.14422 NW	3880	170	3710
16.36.1.22442 NE	3878	200	3678
16.36.1.21221 NE	3889	238	3651
16.36.1.23442 NE	3880	195	3685
16.36.1.24244 NE	3875	180	3695
16.36.1.24244 SE	3864	200	3664
16.36.1.24424 NE	3874	185	3689
16.36.1.32144 SW	3875	210	3665
16.36.1.32331 NW	3882	185	3697
16.36.1.34113 SW	3875	170	3705
16.36.1.34313 NW	3876	200	3676
16.36.1.42224 SE	3862	185	3677
16.36.1.42243 SE	3861	175	3686
16.36.1.42421 NE	3870	180	3690
16.36.1.42442 NE	3866	185	3681
16.36.1.44224 SE	3859	180	3679
16.36.1.44244 SE	3859	185	3674
16.36.2.12121 NW	3904	215	3689
16.36.2.14141 NW	3898	210	3688
16.36.2.14412 SW	3892	215	3677
16.36.2.14441 NE	3895	195	3700
16.36.2.21122 NE	3902	215	3687
16.36.2.22221 NE	3891	205	3686
16.36.2.23442 NE	3893	198	3695
16.36.2.24442 NE	3891	220	3671
16.36.2.32234 SE	3892	210	3682
16.36.2.32344 SW	3890	215	3675
16.36.2.32411 NW	3895	212	3683
16.36.2.34414 NE	3893	205	3688
16.36.5.33333	3943	131	3812
16.36.6.11333 SW	3963	195	3768
16.36.6.11333 SW	3963	190	3773
16.36.6.11334 NE	3967	195	3772
16.36.6.12444 NW	3958	175	3783
16.36.6.13332 NE	3966	200	3766
16.36.6.13333 SW	3965	205	3760
16.36.6.13341 SE	3963	180	3783
16.36.6.22234 NE	3949	180	3769
16.36.6.23222 NE	3953	170	3783
16.36.6.24212 NE	3950	170	3780
16.36.6.24222 NE	3948	180	3768
16.36.6.24431 NE	3948	160	3788
16.36.6.31111 NW	3966	185	3781
16.36.6.31213 SW	3962	138	3824
16.36.6.31332 NW	3964	190	3774

, Seismic Shot Hole Data

Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.6.31333 SW	3962	170	3792
16.36.6.32111 NW	3962	170	3792
16.36.6.33143 SE	3962	160	3802
16.36.6.33243 SW	3961	135	3826
16.36.6.33333	3962	200	3762
16.36.6.42111 NE	3950	170	3780
16.36.6.42411 SE	3944	160	3784
16.36.6.42433 NE	3947	140	3807
16.36.6.43312 SE	3952	130	3822
16.36.6.43421 SE	3948	155	3793
16.36.6.44244 NE	3943	145	3798
16.36.6.44411 SE	3945	125	3820
16.36.7.21111	3952	105	3847
16.36.7.21333	3952	115	3837
16.36.7.22111	3947	90	3857
16.36.7.22444	3943	125	3818
16.36.7.23342	3951	127	3824
16.36.7.31112	3957	173	3784
16.36.7.31224	3957	155	3802
16.36.7.33000	3958	130	3828
16.36.7.33122	3957	150	3807
16.36.7.34413	3954	120	3834
16.36.7.34444	3953	135	3818
16.36.7.42411	3944	155	3789
16.36.7.43233	3951	128	3823
16.36.7.43324	3952	140	3812
16.36.8.32122	3936	135	3801
16.36.8.31211	3941	131	3810
16.36.8.32343	3936	134	3802
16.36.8.34244	3932	148	3784
16.36.8.41212	3928	131	3797
16.36.9.11111	3928	163	3765
16.36.9.23114	3917	191	3726
16.36.9.31111	3923	156	3767
16.36.9.31424	3918	155	3763
16.36.9.32442	3913	130	3783
16.36.9.43143	3910	164	3746
16.36.10.41132	3897	138	3759
16.36.11.12123	3898	200	3698
16.36.11.12224	3894	215	3679
16.36.11.14222	3889	225	3664
16.36.11.4321	3895	220	3675
16.36.11.14442	3891	225	3666
16.36.11.21200	3885	214	3671
16.36.11.21213	3887	215	3672
16.36.11.22233	3884	215	3669
16.36.11.22242	3878	200	3678
16.36.11.24424	3885	215	3670
16.36.11.32343	3883	215	3668
16.36.11.32410	3884	220	3664
16.36.11.34323	3882	240	3642

Seismic Shot Hole Data

Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.11.43222	3875	240	3635
16.36.11.44242	3874	220	3654
16.36.12.14112	3873	185	3688
16.36.12.21331	3869	200	3669
16.36.12.22243	3859	195	3664
16.36.12.22311	3864	195	3669
16.36.12.23211	3867	200	3667
16.36.12.24224	3860	190	3670
16.36.12.34133	3876	220	3656
16.36.12.34431	3872	220	3652
16.36.12.34444	3871	224	3647
16.36.12.42224	3862	200	3662
16.36.12.42442	3862	200	3662
16.36.12.43311	3870	230	3640
16.36.12.43430	3864	215	3649
16.36.12.44224	3863	190	3673
16.36.12.44342	3864	215	3649
16.36.12.44440	3860	202	3658
16.36.13.11122	3865	200	3665
16.36.13.12220	3867	230	3637
16.36.13.13333	3866	210	3656
16.36.13.21212	3862	205	3657
16.36.13.21222	3863	220	3643
16.36.13.22220	3859	205	3654
16.36.13.24442	3851	210	3641
16.36.13.33300	3866	245	3621
16.36.13.33333	3863	250	3613
16.36.13.34323	3876	260	3616
16.36.13.34343	3871	265	3606
16.36.13.41222	3853	205	3648
16.36.13.43314	3862	245	3617
16.36.13.43434	3858	230	3628
16.36.13.44000	3852	214	3638
16.36.13.44331	3854	250	3604
16.36.13.44444	3847	230	3617
16.36.14.22314	3869	265	3604
16.36.14.23314	3893	265	3628
16.36.14.21314	3876	240	3636
16.36.14.41130	3880	230	3650
16.36.14.43341	3867	210	3657
16.36.14.44300	3867	250	3617
16.36.15.21312	3894	182	3712
16.36.15.22222	3886	201	3685
16.36.15.33433	3897	180	3717
16.36.15.41334	3889	133	3756
16.36.16.12112	3914	166	3748
16.36.16.13111	3922	185	3737
16.36.16.13142	3918	190	3728
16.36.16.21111	3910	185	3725
16.36.16.22122	3903	180	3723
16.36.16.22314	3905	193	3712

Seismic Shot Hole Data

Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.16.22444	3901	198	3703
16.36.16.23300	3904	174	3730
16.36.16.31111	3921	200	3721
16.36.16.33111	3921	185	3736
16.36.16.41422	3898	210	3688
16.36.16.42122	3899	215	3684
16.36.16.44141	3899	165	3734
16.36.16.44412	3898	175	3723
16.36.17.11212	3938	166	3772
16.36.17.13111	3942	165	3777
16.36.17.21222	3926	158	3768
16.36.17.14444	3932	165	3767
16.36.17.13344	3938	170	3768
16.36.17.21314	3932	165	3767
16.36.17.23112	3932	170	3762
16.36.17.23224	3928	175	3753
16.36.17.24344	3927	190	3737
16.36.17.32411	3934	172	3762
16.36.17.33212	3939	168	3771
16.36.17.41112	3932	171	3761
16.36.17.43224	3925	178	3747
16.36.18.11222	3957	127	3830
16.36.18.12222	3953	140	3813
16.36.18.21114	3952	130	3822
16.36.18.22111	3952	160	3792
16.36.18.22142	3950	160	3790
16.36.18.23122	3949	150	3799
16.36.18.23133	3951	145	3806
16.36.18.24344	3943	190	3753
16.36.18.31331	3955	142	3813
16.36.18.32223	3955	145	3810
16.36.18.32344	3957	154	3803
16.36.18.41244	3946	189	3757
16.36.18.41343	3948	130	3818
16.36.18.44000	3943	160	3783
16.36.18.44111	3946	190	3756
16.36.18.44244	3942	165	3777
16.36.19.22222	3942	185	3757
16.36.19.13133	3956	130	3826
16.36.19.31313	3963	90	3873
16.36.19.33311	3955	109	3846
16.36.19.33322	3955	115	3840
16.36.19.33433	3950	120	3830
16.36.19.34433	3948	105	3843
16.36.19.34442	3947	109	3838
16.36.19.41121	3954	75	3879
16.36.19.42222	3943	165	3778
16.36.19.4330	3945	100	3845
16.36.19.4430	3947	105	3842
16.36.19.44333	3944	115	3829
16.36.19.44334	3945	115	3830

Seismic Shot Hole Data

Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.20.11222	3935	185	3750
16.36.20.11313	3942	164	3778
16.36.20.12222	3932	185	3747
16.36.20.21222	3923	170	3753
16.36.20.22222	3916	170	3746
16.36.20.24244	3915	158	3757
16.36.20.31333	3944	165	3779
16.36.20.33433	3939	155	3784
16.36.20.34444	3928	184	3744
16.36.20.42424	3916	171	3745
16.36.20.42444	3914	180	3734
16.36.20.44334	3924	186	3738
16.36.20.44444	3915	188	3727
16.36.21.11333	3915	185	3730
16.36.21.14444	3902	165	3737
16.36.21.21112	3903	166	3737
16.36.21.21114	3903	168	3735
16.36.21.22121	3899	166	3733
16.36.21.22234	3897	180	3717
16.36.21.24211	3895	165	3730
16.36.21.24241	3894	170	3724
16.36.21.31222	3907	165	3742
16.36.21.33433	3903	185	3718
16.36.21.34444	3898	174	3724
16.36.21.22420	3896	200	3696
16.36.21.41100	3900	174	3726
16.36.21.41222	3898	185	3713
16.36.21.42221	3896	185	3711
16.36.21.42443	3897	180	3717
16.36.21.44334	3895	175	3720
16.36.22.11214	3897	205	3692
16.36.22.11234	3897	200	3697
16.36.22.13144	3892	182	3710
16.36.22.21142	3884	175	3709
16.36.22.21221	3883	160	3723
16.36.22.21423	3884	185	3699
16.36.22.22112	3882	165	3717
16.36.22.22134	3882	180	3702
16.36.22.22422	3878	174	3704
16.36.22.23114	3891	192	3699
16.36.22.24242	3878	185	3693
16.36.22.24444	3883	178	3705
16.36.22.31313	3897	182	3715
16.36.22.32231	3887	174	3713
16.36.22.33311	3894	195	3699
16.36.22.33440	3892	195	3697
16.36.22.34443	3889	175	3714
16.36.22.43134	3888	167	3721
16.36.22.43211	3878	142	3736
16.36.22.44224	3872	163	3709
16.36.22.44324	3875	175	3700

Seismic Shot Hole Data

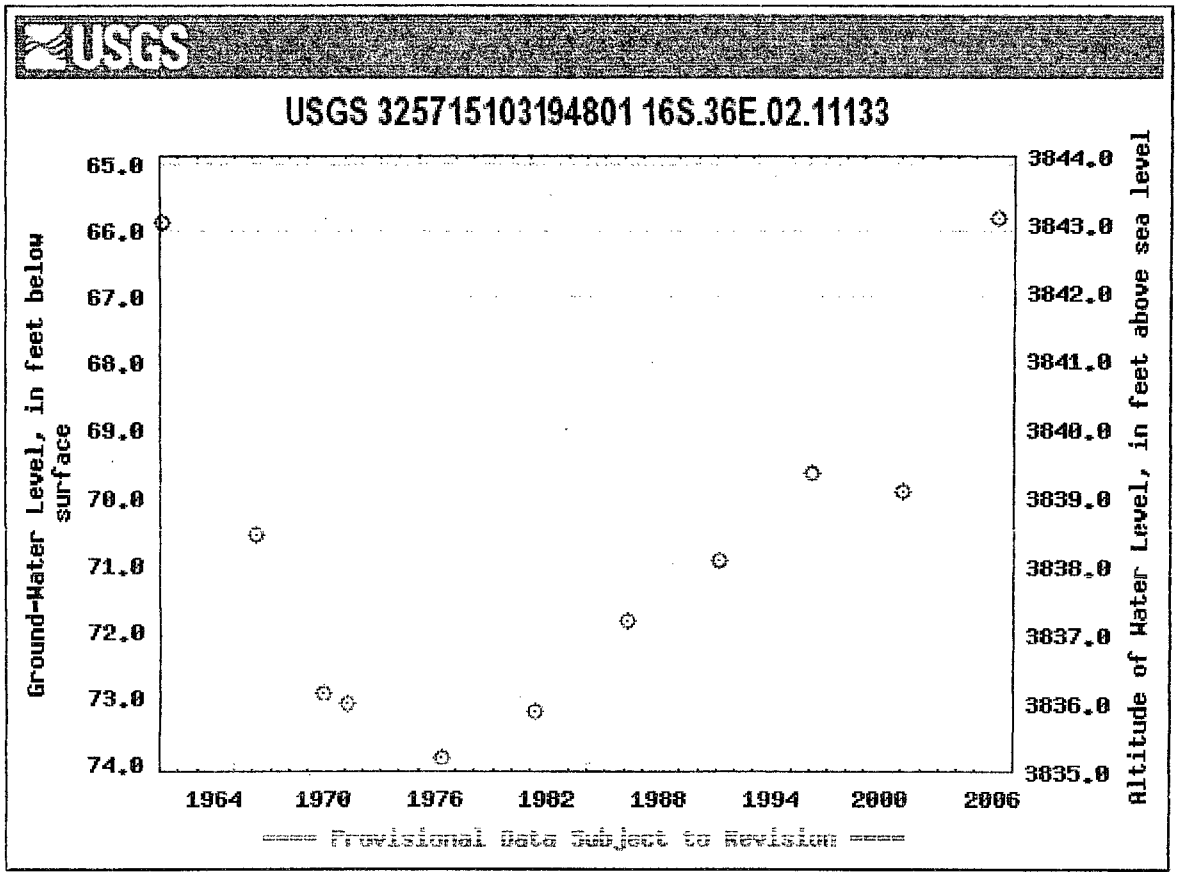
Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.22.44334	3879	174	3705
16.36.22.44421	3869	154	3715
16.36.23.11321	3878	180	3698
16.36.23.12111	3876	198	3678
16.36.23.12222	3867	200	3667
16.36.23.12343	3873	232	3641
16.36.23.13333	3882	178	3704
16.36.23.21211	3865	205	3660
16.36.23.21232	3864	230	3634
16.36.23.21334	3865	210	3655
16.36.23.23334	3866	230	3636
16.36.23.33344	3867	171	3696
16.36.23.33413	3867	170	3697
16.36.23.34131	3875	175	3700
16.36.23.34324	3870	200	3670
16.36.23.34443	3865	195	3670
16.36.23.41334	3867	190	3677
16.36.23.43324	3870	220	3650
16.36.23.44324	3861	245	3616
16.36.24.12212	3868	211	3657
16.36.24.12222	3867	222	3645
16.36.24.13333	3853	249	3604
16.36.24.13424	3852	205	3647
16.36.24.2130	3855	210	3645
16.36.24.22222	3847	230	3617
16.36.24.2330	3847	200	3647
16.36.24.24224	3853	215	3638
16.36.24.24242	3852	220	3632
16.36.24.24444	3842	207	3635
16.36.24.33322	3849	250	3599
16.36.24.34244	3844	225	3619
16.36.24.34324	3847	240	3607
16.36.24.42442	3838	215	3623
16.36.24.43413	3842	240	3602
16.36.24.44244	3838	217	3621
16.36.24.44321	3838	235	3603
16.36.25.11111	3857	240	3617
16.36.25.11212	3849	240	3609
16.36.25.11222	3848	219	3629
16.36.25.13220	3854	224	3630
16.36.25.141333	3845	210	3635
16.36.25.21133	3843	240	3603
16.36.25.22112	3839	230	3609
16.36.25.22222	3838	230	3608
16.36.25.24242	3835	230	3605
16.36.25.33111	3848	225	3623
16.36.25.33244	3847	227	3620
16.36.25.3420	3847	245	3602
16.36.25.42444	3831	218	3613
16.36.26.11122	3863	170	3693
16.36.26.21444	3855	230	3625

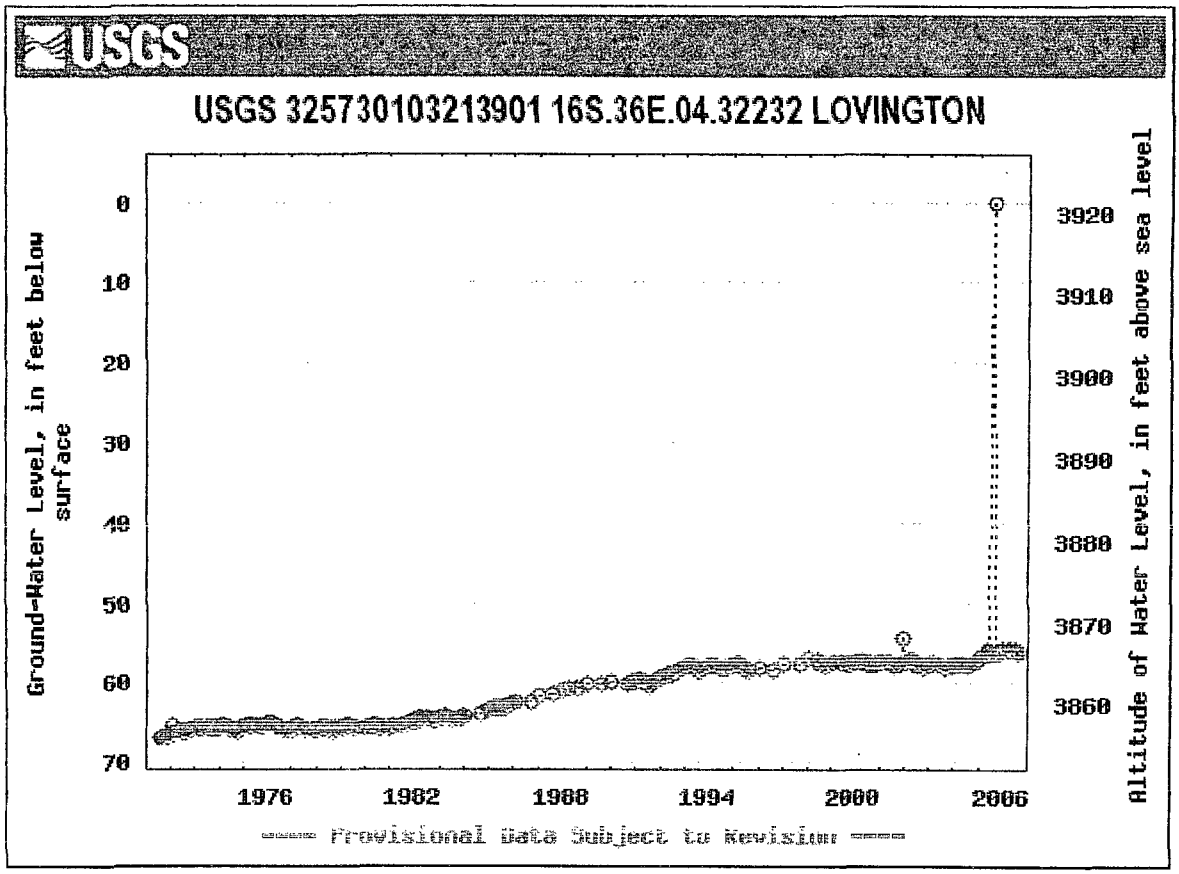
Seismic Shot Hole Data

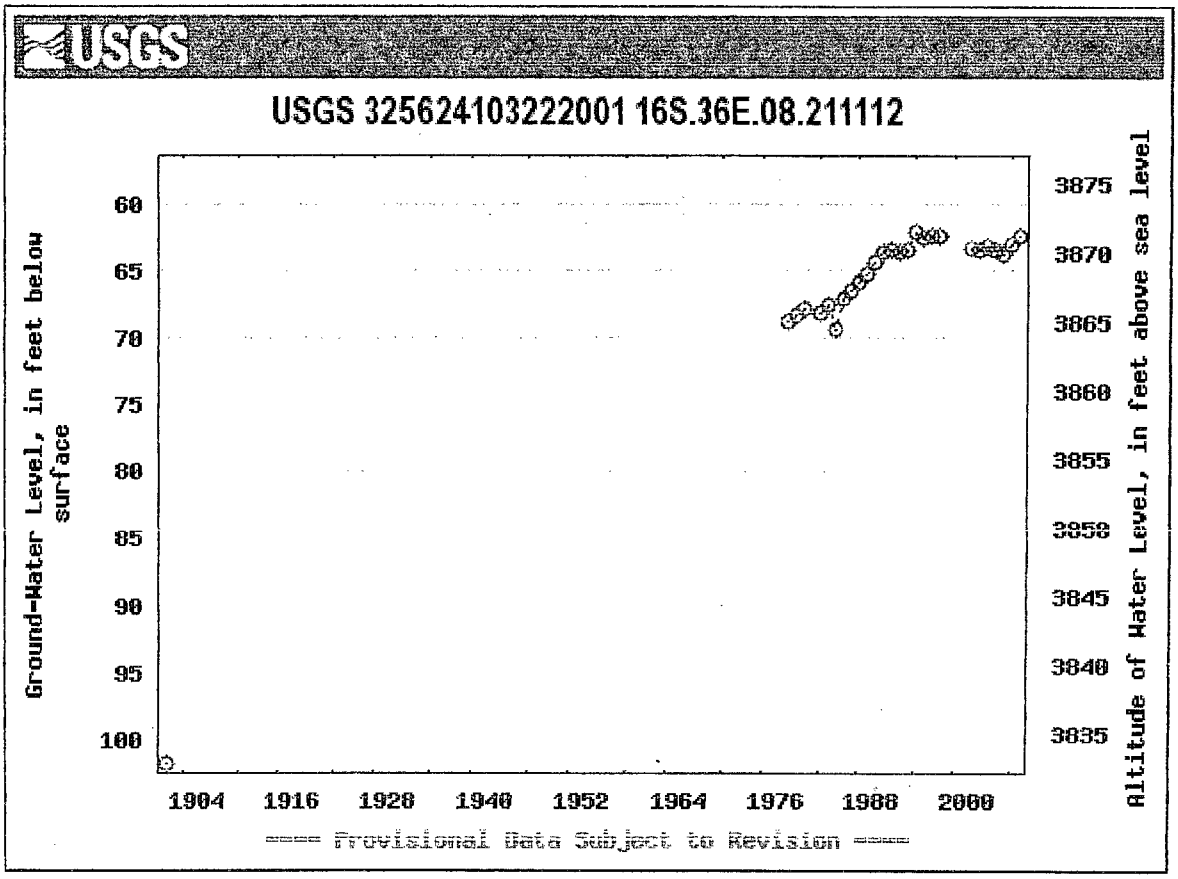
Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.26.22144	3860	223	3637
16.36.26.22220	3857	245	3612
16.36.26.41333	3861	175	3686
16.36.26.43333	3856	205	3651
16.36.27.11333	3891	204	3687
16.36.27.12212	3889	185	3704
16.36.27.11122	3892	200	3692
16.36.27.22112	3879	170	3709
16.36.27.23300	3883	201	3682
16.36.27.32234	3879	212	3667
16.36.27.43334	3877	220	3657
16.36.28.12212	3898	170	3728
16.36.28.11212	3906	190	3716
16.36.28.21312	3897	175	3722
16.36.28.22112	3894	175	3719
16.36.28.22220	3893	205	3688
16.36.28.33444	3896	200	3696
16.36.28.34444	3895	205	3690
16.36.28.41341	3898	185	3713
16.36.28.42242	3883	196	3687
16.36.28.44344	3893	185	3708
16.36.28.44422	3890	210	3680
16.36.29.11333	3937	170	3767
16.36.29.12111	3931	185	3746
16.36.29.22111	3926	200	3726
16.36.29.22112	3924	190	3734
16.36.29.24222	3915	210	3705
16.36.29.31133	3929	175	3754
16.36.29.33344	3927	180	3747
16.36.29.34444	3917	189	3728
16.36.29.44222	3908	195	3713
16.36.29.44344	3909	180	3729
16.36.29.44444	3905	205	3700
16.36.30.11333	3950	123	3827
16.36.30.22222	3943	160	3783
16.36.30.33444	3936	160	3776
16.36.30.42222	3930	197	3733
16.36.30.44344	3931	160	3771
16.36.31.12222	3936	160	3776
16.36.31.133334	3934	105	3829
16.36.31.14111	3933	110	3823
16.36.31.21444	3935	131	3804
16.36.31.22222	3928	165	3763
16.36.31.22444	3931	170	3761
16.36.31.33333	3932	103	3829
16.36.31.42222	3931	155	3776
16.36.31.44333	3924	137	3787
16.36.31.443442	3926	160	3766
16.36.32.34333	3914	130	3784
16.36.32.44222	3899	180	3719
16.36.32.44333	3906	200	3706

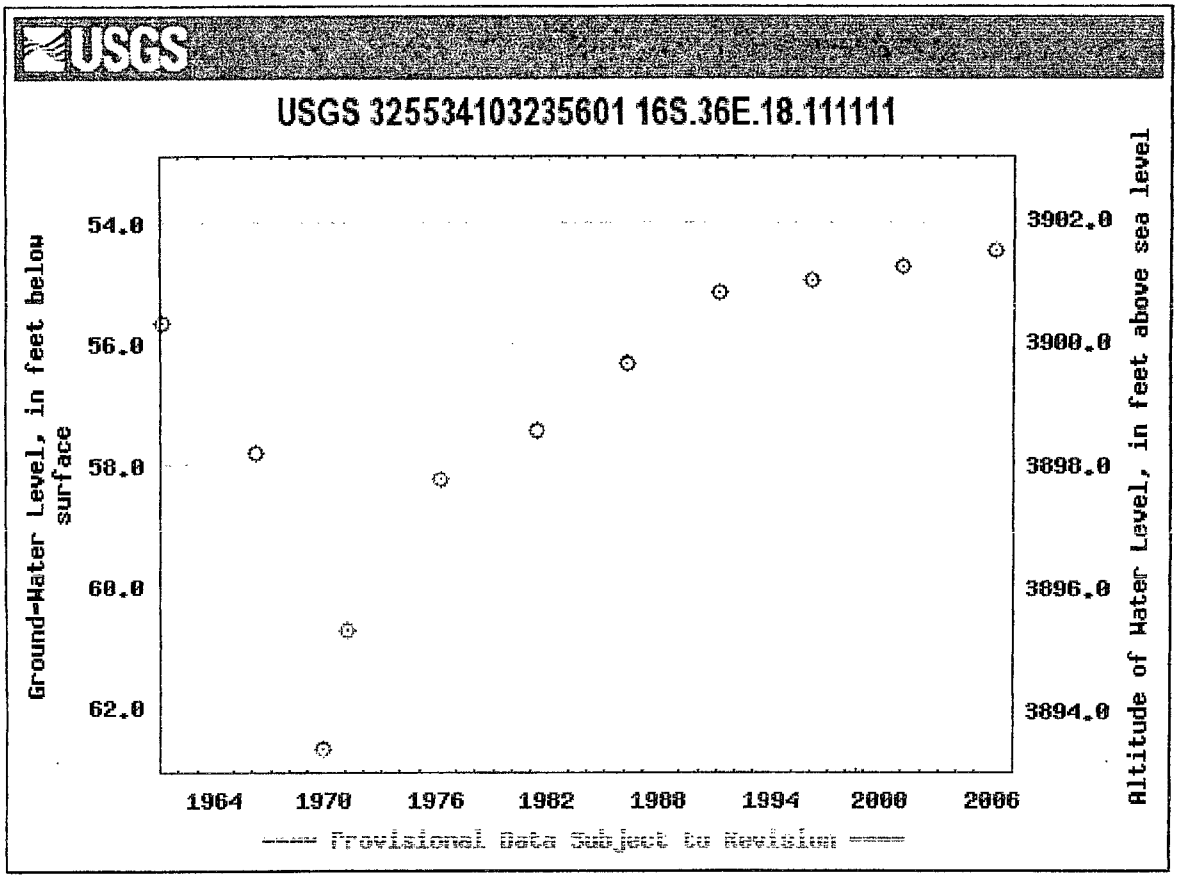
Seismic Shot Hole Data

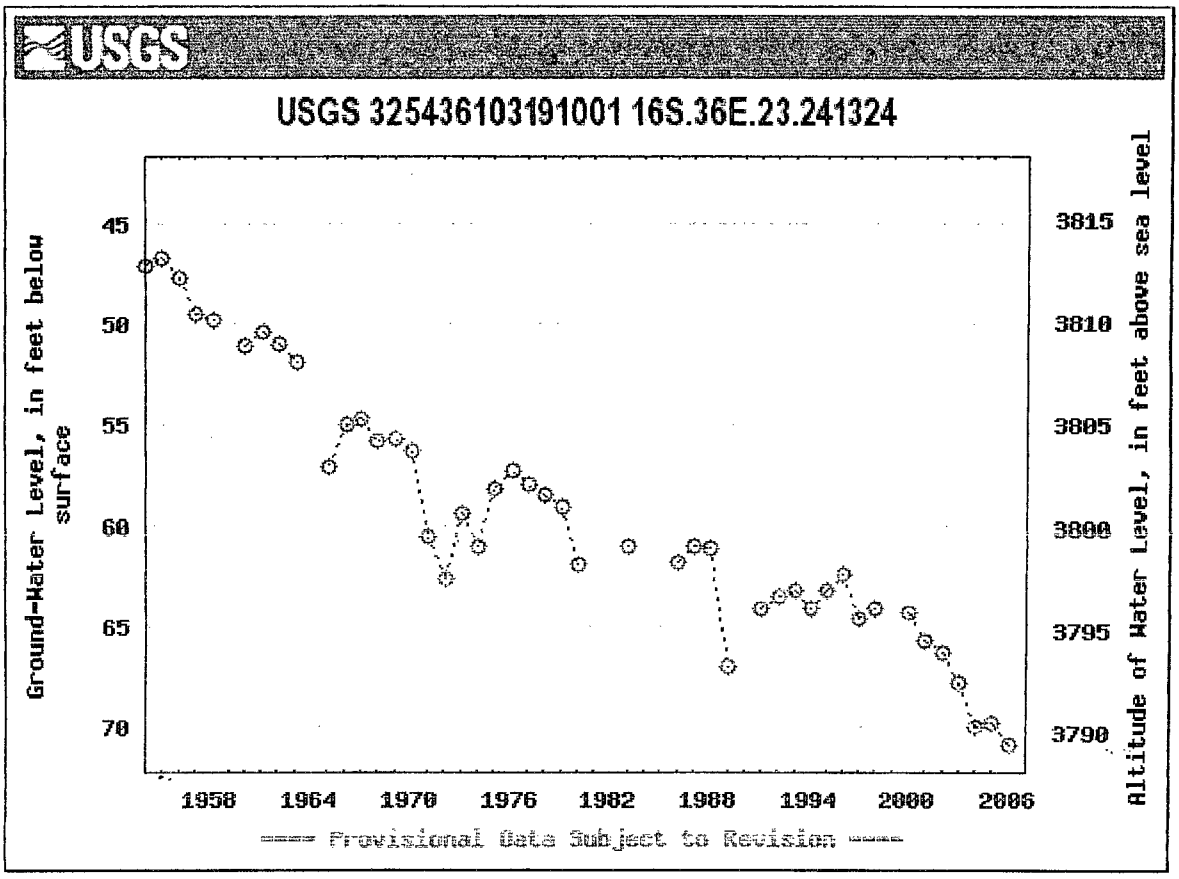
Location	Land Elevation	Depth to Red Bed	Red Bed Elevation
16.36.32.4444	3900	200	3700
16.36.33.23112	3892	206	3686
16.36.33.23134	3889	205	3684
16.36.33.43143	3883	206	3677
16.36.34.12121	3881	215	3666
16.36.34.33241	3887	192	3695
16.36.34.343330	3884	235	3649
16.36.34.41100	3875	200	3675
16.36.35.11131	3870	222	3648
16.36.35.12113	3858	205	3653
16.36.35.23222	3847	218	3629
16.36.36.21133	3844	240	3604
16.36.36.22112	3841	225	3616
16.36.36.22222	3833	241	3592
16.36.36.31333	3842	220	3622
16.36.36.33444	3836	193	3643
16.36.36.41333	3827	210	3617
16.36.36.44244	3819	239	3580
16.36.36.244	3829	233	3596


USGS
USGS 325715103194801 16S.36E.02.11133
Ground-Water Level, in feet below surface
Altitude of Water Level, in feet above sea level
65.0
66.0
67.0
68.0
69.0
70.0
71.0
72.0
73.0
74.0
3844.0
3843.0
3842.0
3841.0
3840.0
3839.0
3838.0
3837.0
3836.0
3835.0
1964
1970
1976
1982
1988
1994
2000
2006
---- Provisional Data Subject to Revision ----


USGS
USGS 325730103213901 16S.36E.04.32232 LOVINGTON
Ground-Water Level, in feet below surface
0
10
20
30
40
50
60
70
1976
1982
1988
1994
2000
2006
Altitude of Water Level, in feet above sea level
3920
3910
3900
3890
3880
3870
3860
Provisional Data Subject to Revision


USGS
USGS 325624103222001 16S.36E.08.211112
Ground-Water Level, in feet below surface
60
65
70
75
80
85
90
95
100
Altitude of Water Level, in feet above sea level
3875
3870
3865
3860
3855
3850
3845
3840
3835
1904
1916
1928
1940
1952
1964
1976
1988
2000
Provisional Data Subject to Revision


USGS
USGS 325534103235601 16S.36E.18.111111
Ground-Water Level, in feet below surface
54.0
56.0
58.0
60.0
62.0
Altitude of Water Level, in feet above sea level
3902.0
3900.0
3898.0
3896.0
3894.0
1964
1970
1976
1982
1988
1994
2000
2006
Provisional Data Subject to Revision


USGS
USGS 325436103191001 16S.36E.23.241324
Ground-Water Level, in feet below surface
45
50
55
60
65
70
Altitude of Water Level, in feet above sea level
3815
3810
3805
3800
3795
3790
1958
1964
1970
1976
1982
1988
1994
2000
2006
Provisional Data Subject to Revision

Water Resources National Water Information System: Web Interface

Data Category: Ground Water | Geographic Area: United States | GO

Ground-water levels for the Nation

Search Results -- 1 sites found

Search Criteria

Agency code = usgs
site_no list = • 325436103191001

Save file of selected sites to local disk for future upload

USGS 325436103191001 16S.36E.23.241324

Lea County, New Mexico
Latitude 32°54'36", Longitude 103°19'10"
NAD27
Land-surface elevation
3,860.00 feet above sea level NGVD29
The depth of the well is 95 feet below land surface.
This well is completed in the OGALLALA FORMATION (121OGLL) local aquifer.

Output formats

- Table of data
- Tab-separated data
- Graph of data
- Reselect period

Date	Time	Water level, feet below land surface	[?] Status
1954-01-07		47.06	
1955-01-05		46.68	
1956-01-11		47.63	
1957-01-24		49.49	
1958-01-15		49.81	
1960-01-18		51.11	
1961-02-03		50.39	
1962-01-23		50.94	
1963-02-26		51.84	
1965-02-19		57.09	
1966-02-10		54.95	
1967-01-05		54.69	
1968-01-02		55.79	

Date	Time	Water level, feet below land surface	[?] Status
1978-01-04		58.55	
1979-01-04		59.07	
1980-01-04		61.94	
1983-01-05		61.02	
1986-01-09		61.78	
1987-01-06		61.05	
1988-01-09		61.07	
1989-01-05		67.04	R
1991-01-05		64.12	
1992-01-08		63.56	
1993-01-07		63.24	
1994-01-07		64.15	
1995-01-05		63.26	

1969-01-17		55.71	
1970-01-06		56.27	
1971-01-13		60.48	
1972-01-14		62.59	
1973-01-10		59.44	
1974-01-08		61.02	
1975-01-07		58.19	
1976-01-14		57.27	
1977-01-07		57.99	

1996-01-11		62.39	
1997-01-03		64.58	
1998-01-06		64.08	
2000-01-05		64.35	
2001-01-04		65.70	
2002-01-03		66.29	
2003-01-04		67.85	
2004-01-09		69.99	
2005-01-03	16:35	69.79	
2006-01-05	10:25	70.92	

Questions about data?
Feedback on this web site
Top
Explanation of terms

Ground water for USA: Water Levels
http://waterdata.usgs.gov/nwis/gwlevels?

Retrieved on 2006-10-12 13:43:43 EDT

VonGonten, Glenn, EMNRD

From: Minchew, Phillip W (Wayne) [PMinchew@chevron.com]
Sent: Thursday, July 27, 2006 10:16 AM
To: VonGonten, Glenn, EMNRD
Cc: Price, Wayne, EMNRD
Subject: FW: Chevron Lovington Field
Attachments: LovingtonBradenheadSurveys #2.xls

From: Minchew, Phillip W (Wayne)
Sent: Thursday, July 27, 2006 9:38 AM
To: 'glenn.vongonten@statenm.us'
Cc: Ridenour, Larry D (LRidenour)
Subject: Chevron Lovington Field

<<LovingtonBradenheadSurveys #2.xls>>

This is the results of our surveys for the Lovington Field. We have identified the wells with tanks on them. They have been emptied and we are measuring flow into them. I will communicate results and findings from these in the next two weeks. If you have any questions give me a call.

Wayne Minchew
Chevron NAEP
Operations Supervisor
505-396-4414 ext. 101
505-631-9119

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD
Sent: Thursday, July 27, 2006 11:30 AM
To: 'pwise@lovington-nm.org'; 'hsncpbm@leaco.net'
Subject: FW: Chevron Lovington Field
Attachments: LovingtonBradenheadSurveys #2.xls

FYI

Glenn

From: Minchew, Phillip W (Wayne) [mailto:PMinchew@chevron.com]
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To: VonGonten, Glenn, EMNRD
Cc: Price, Wayne, EMNRD
Subject: FW: Chevron Lovington Field

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Chevron NAEP
Operations Supervisor
505-396-4414 ext. 101
505-631-9119

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD
Sent: Friday, August 18, 2006 2:54 PM
To: 'hsncpbm@leaco.net'
Subject: FW: Chevron Lovington Field
Attachments: LovingtonBradenheadSurveys #2.xls

From: Minchew, Phillip W (Wayne) [mailto:PMinchew@chevron.com]
Sent: Thursday, July 27, 2006 10:16 AM
To: VonGonten, Glenn, EMNRD
Cc: Price, Wayne, EMNRD
Subject: FW: Chevron Lovington Field

From: Minchew, Phillip W (Wayne)
Sent: Thursday, July 27, 2006 9:38 AM
To: 'glenn.vongonten@statenm.us'
Cc: Ridenour, Larry D (LRidenour)
Subject: Chevron Lovington Field

<<LovingtonBradenheadSurveys #2.xls>>

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Wayne Minchew
Chevron NAEP
Operations Supervisor
505-396-4414 ext. 101
505-631-9119

VonGonten, Glenn, EMNRD

From: Price, Wayne, EMNRD
Sent: Friday, July 21, 2006 10:50 AM
To: VonGonten, Glenn, EMNRD
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;
Attachments: CHEVRONLOVINGTONTESTING.rtf

From: Dickey, Sylvia, EMNRD
Sent: Tuesday, July 18, 2006 6:00 PM
To: Price, Wayne, EMNRD
Cc: Wink, Gary, EMNRD
Subject: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

Wayne;

Attached is the MIT Failure letter that I will send to Chevron, (Attn: Wayne Minchew). This letter states only the Class II Injection well failures, regarding the annual UIC test requirements for the Chevron Lovington areas. I spoke to Mr. Minchew today and I will submit to him the actual data that I noted for all **injection wells** tested for the Lovington Paddock, Lovington San Andres and West Lovington Unit properties during 7/10/06 thru 7/14/06.

He will then forward you a compiled spreadsheet regarding the test results. This is to include his own testing on the produced wells in those areas above. Please note I did not witness the testing on the producers in those areas.

If you have a question call me.

Thanks,

sadickey
ocd 1

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD
Sent: Monday, July 24, 2006 9:38 AM
To: 'pwise@lovington-nm.org'; 'hsncpbm@leaco.net'
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;
Attachments: CHEVRONLOVINGTONTESTING.rtf

From: Price, Wayne, EMNRD
Sent: Friday, July 21, 2006 10:50 AM
To: VonGonten, Glenn, EMNRD
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

From: Dickey, Sylvia, EMNRD
Sent: Tuesday, July 18, 2006 6:00 PM
To: Price, Wayne, EMNRD
Cc: Wink, Gary, EMNRD
Subject: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

Wayne;

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Thanks,

sadickey
ocd 1

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

Underground Injection Control Program
"Protecting Our Underground Sources of Drinking

18-Jul-06

CHEVRON MIDCONTINENT, L.P.

ATTN: WAYNE MINCHEW

HCR 60 P.O. BOX 423

LOVINGTON, NM 88260

NOTICE OF VIOLATION and SHUT-IN DIRECTIVE
Failed Mechanical Integrity Test

Dear Operator:

The following test(s) were performed on the listed dates on the following well(s) shown below in the test detail section.

The test(s) indicates that the well or wells failed to meet mechanical integrity standards of the New Mexico Oil Conservation Division. To comply with guidelines established by the U.S. Environmental Protection Agency, the well(s) must be shut-in immediately until it is successfully repaired. The test detail section which follows indicates preliminary findings and/or probable causes of the failure. This determination is based on a test of your well or facility by an inspector employed by the Oil Conservation Division. Additional testing during the repair operation may be necessary to properly identify the nature of the well failure.

Please notify the proper district office of the Division at least 48 hours prior to the date and time that the well(s) will be retested so the test may be witnessed by a field representative.

MECHANICAL INTEGRITY TEST DETAIL SECTION

LOVINGTON SAN ANDRES UNIT No.049 — **30-025-03845-00-00**
Active Injection - (All Types) — I-1-17S-36E

Test Date:	7/11/2006	**Permitted Injection PSI:**		**Actual PSI:**	
Test Reason:	Annual IMIT	**Test Result:**	F	**Repair Due:**	10/14/2006
Test Type:	Std. Annulus Pres. Test	**FAIL TYPE:**	Other Internal Failure	**FAIL CAUSE:**	

Comments on MIT: PRESSURE TEST FAILURE

WEST LOVINGTON UNIT No.024 — **30-025-03869-00-00**
Active Injection - (All Types) — J-4-17S-36E

Test Date:	7/11/2006	**Permitted Injection PSI:**		**Actual PSI:**	
Test Reason:	Annual IMIT	**Test Result:**	F	**Repair Due:**	10/14/2006
Test Type:	Std. Annulus Pres. Test	**FAIL TYPE:**	Other Internal Failure	**FAIL CAUSE:**	

Comments on MIT: OPERATOR NOTIFIED WILL NOT PASS; NO CHART;

LOVINGTON PADDOCK UNIT No.057 — **30-025-05418-00-00**
Active Injection - (All Types) — E-6-17S-37E

Test Date:	7/12/2006	**Permitted Injection PSI:**		**Actual PSI:**	
Test Reason:	Annual IMIT	**Test Result:**	F	**Repair Due:**	10/15/2006
Test Type:	Bradenhead Test	**FAIL TYPE:**	Other Internal Failure	**FAIL CAUSE:**	

Comments on MIT: VISIBLE LEAK ON SIDE OF PROD. CSG; BURP TANK ON INT;

Oil Conservation Division * 1625 N. French Drive * Hobbs, New Mexico 88240
Phone: 505-393-6161 * Fax: 505-393-0720 * http://www.emnrd.state.nm.us

WP: 25,40,47

LOVINGTON SAN ANDRES UNIT No.054 **30-025-20045-00-00**

Active Injection - (All Types) J-36-16S-36E

Test Date:	7/11/2006	**Permitted Injection PSI:**		**Actual PSI:**	
Test Reason:	Annual IMIT	**Test Result:**	F	**Repair Due:**	10/14/2006
Test Type:	Std. Annulus Pres. Test	**FAIL TYPE:**	Other Internal Failure	**FAIL CAUSE:**	

Comments on MIT: POSSIBLE TUBING/COUPLING OR PACKER LEAK; PRESSURE TEST FAILURE

WEST LOVINGTON UNIT No.025 3 P **30-025-21884-00-00**

Active Injection - (All Types) I-4-17S-36E

Test Date:	7/10/2006	**Permitted Injection PSI:**		**Actual PSI:**	
Test Reason:	Annual IMIT	**Test Result:**	F	**Repair Due:**	10/13/2006
Test Type:	Std. Annulus Pres. Test	**FAIL TYPE:**	Other Internal Failure	**FAIL CAUSE:**	

Comments on MIT: PRESSURE TEST FAILURE

In the event that a satisfactory response is not received to this letter of direction by the "Repair Due:" date shown above, or if the well(s) are not immediately shut-in, further enforcement will occur. Such enforcement may include this office applying to the Division for an order summoning you to a hearing before a Division Examiner in Santa Fe to show cause why you should not be ordered to permanently plug and abandon this well. Such a hearing may result in imposition of CIVIL PENALTIES for your violation of OCD rules.

Sincerely,

Hobbs OCD District Office

Note: Pressure Tests are performed prior to initial injection, after repairs and otherwise, every 5 years; Bradenhead Tests are performed annually. Information in Detail Section comes directly from field inspector data entries - not all blanks will contain data. "Failure Type" and "Failure Cause" and any Comments are not to be interpreted as a diagnosis of the condition of the wellbore. Additional testing should be conducted by the operator to accurately determine the nature of the actual failure. * Significant Non-Compliance events are reported directly to the EPA, Region VI, Dallas, Texas.

VonGonten, Glenn, EMNRD

From: VonGonten, Glenn, EMNRD
Sent: Friday, August 18, 2006 2:54 PM
To: 'hsncpbm@leaco.net'
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;
Attachments: CHEVRONLOVINGTONTESTING.rtf

From: VonGonten, Glenn, EMNRD
Sent: Monday, July 24, 2006 9:38 AM
To: 'pwise@lovington-nm.org'; 'hsncpbm@leaco.net'
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

From: Price, Wayne, EMNRD
Sent: Friday, July 21, 2006 10:50 AM
To: VonGonten, Glenn, EMNRD
Subject: FW: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

From: Dickey, Sylvia, EMNRD
Sent: Tuesday, July 18, 2006 6:00 PM
To: Price, Wayne, EMNRD
Cc: Wink, Gary, EMNRD
Subject: TEST FAILURES ONLY - CHEVRONMIDCONT. LOVINGTON TESTING;

Wayne;

Attached is the MIT Failure letter that I will send to Chevron, (Attn: Wayne Minchew). This letter states only the Class II Injection well failures, regarding the annual UIC test requirements for the Chevron Lovington areas. I spoke to Mr. Minchew today and I will submit to him the actual data that I noted for all **injection wells** tested for the Lovington Paddock, Lovington San Andres and West Lovington Unit properties during 7/10/06 thru 7/14/06.

He will then forward you a compiled spreadsheet regarding the test results. This is to include his own testing on the produced wells in those areas above. Please note I did not witness the testing on the producers in those areas.

If you have a question call me.

Thanks,

sadickey
ocd 1

SCHEDULED INSPECTIONS / MIT				Year: 2006		Lease: LPU
Producing well bradenhead survey						
WELL	TBG. PSI	(P)CSG.PSI	(S)CSG.PSI	(I)CSG.PSI	TYPE	COMMENTS:
3	800	800 SI	0 - Burp	0		T/A - Close burp tank 4' fluid 800 > 0 - 1 min open slowly
32	25	65	0 - Burp	0	P/u	Burp tank 3' fluid
72	50	50	0 - open	0 - open	P/u	
74	60	60	0 - open	0	P/u	
76	40	45	0 - open	0	P/u	
78	40	50	0 - open	0 - open	P/u	
81	45	50	Burp open	Burp - open	P/u	Burp tank 3' Replace 2" csg. valve
83	115	115	0 - close	burp - open	T/A	Burp tank 6" T/A
84	35	45	0 - Burp	0	Sub	Burp tank empty (csg. Valve leaks)
85	35	40	0 - open	0 - open	P/u	
86	45	50	0 - open	0	P/u	
87	55	60	0 - open	0	P/u	
88	65	65	0 - open	0	P/u	
89	70	70	0 - open	0	P/u	
90	60	60	0 - H2O	0	P/u	s. csg. standing full of water
91	50	55	0 - open	0	P/u	
92	140	140	0 - open	0		
93	70 - BP	60	0 - open	0	Sub	
94	50	55	0 - open	0	P/u	
96	60	65	Puff - close	0	P/u	
97	60	65	0 - open	0	P/u	
98	40	40	Puff - close	0	P/u	
99	50	55	0 - open	0	P/u	
100	40	45	0 - open	0	P/u	
101	50	50	0 - open	0	P/u	
102	40	45	0 - open	0	P/u	
103	70	70	0 - open	0	P/u	LPU #1 - P/A
104	65	65	0 - open	0	P/u	LPU #95 - P/A
105	65	65	0 - open	0	P/u	
106	30	45	0 - open	0	P/u	

107	30	45	0 - open	0	P/u	seep on csg valve stem
108	0	45	0 - open	0	P/u	Hit off
109	45	45	0 - open	0	P/u	
110	50	55	0 - open	0	P/u	
111	60	60	0 - open	0	P/u	
112	140 - BP	70	0 - open	0	P/u	Wellhead seeps - valves
113	50	50	0 - open	0	P/u	
114	50	55	0 - open	0	P/u	
115	30	40	Puff - open	0	P/u	
116	10	10 - Fluid	0 - open	0		
117	50	60	0 - open	0	P/u	
118	60	60	Puff - open	0	P/u	
119	50	50	0 - open	0	P/u	
120	55	60	0 - open	0	P/u	
121	55	60	0 - open	0	P/u	
122	50	50	0 - open	0	P/u	
123	50	55	0 - open	0	P/u	
124	60	60	0 - open	0	P/u	
125	60	65	0 - open	0	P/u	
127	65	65	0 - open	0	P/u	
129	45	45	0 - open	0	P/u	
130	60	60	0 - open	0	P/u	
131	50	55	0 - open	0	P/u	replace 2" s. csg. Valve
133	40	50	0 - open	0	P/u	
134	40	45	Blow - close	0	P/u	
135	40	40 - Fluid	0 - close	0		
136	100	100	0 - open	0	T/A	
139	45	50	Plugged	0	P/u	change s. csg. Riser - plugged off
140	55	60	0 - open	0	P/u	
141	55	60	0 - open	0	P/u	
142	50	50	0 - open	0	P/u	
143	200	200	0 - open	0		T/A
144	700	700	80 > 0 - 30 sec	700 - fluid		T/A - Intermediate - oil - East Riser
145	30	Puff	200 > 0 - 3 sec	500 > 0 - 1 min		T/A

148	50	55	0 - open	0	P/u	
Year: 2006		**Lease: LSAU PRODUCERS**				
2	0	Puff oil	0 - open	0		T/A
22	40	45	0 - open	0	P/u	replace surface valve
27	40	45	0 - open	0	P/u	seeping tubing valve
44	55	60	0 - open	Burp - open	P/u	Burp tank
53	55	60	0 - open	0 - open	P/u	
60	40	40	0 - open	0	P/u	leaking wellhead T/A - (gang to look for s. csg. Riser)
61	40	40	0 - open	0	P/u	
62	15	15 - oil	None	0	T/A	
63	50	55	0 - open	0	P/u	
64	40	50	0 - open	0	P/u	
65	40	45	0 - open	0	P/u	
66	0	Puff	0 - open	0		T/A
67	75	75	0 - open	0		T/A
68	50	55	Puff - close	0	P/u	
69	30	40	0 - open	0	P/u	
70	60	60	0 - open	0	P/u	
71	75 - BP	60	0 - open	0	Sub	
72	125 - BP	60	0 - open	0	Sub	
73	130 - BP	60	0 - open	0	Sub	
74	45	45	0 - open	0	P/u	
75	90 - BP	60	0 - open	0	Sub	
76	50	50	0 - open	0	P/u	
77	0 - SI	220 - SI	0 - open	0	P/u	SI Flowline leak
78	40	45	0 - open	0	P/u	
79	0	40	0 - open	N.I.O.	P/u	not running, but active
80	40	40 - oil	0 - open	0		T/A
81	60	60	Puff - close	0	P/u	
82	50	50	0 - open	0	P/u	
83	50	60	Puff - open	0	Sub	
84	120 - BP	65	0 - open	0	P/u	
86	40	40	0 - open	0	Sub	
87	50	55	0 - open	0	P/u	
88	70 - BP	55	0 - open	0	Sub	

Midway#1	40	45	0 - open	0		very HOT temp.
State P. #5	580	Puff	0 - open	0		T/A
YEAR:		**LEASE:**				
		PADDOCK UNIT				
	Injection well bradenhead survey					
2	680	0	0	0		T/A
5	1600	0	Burp tank on surf.	0		
6	1750	0	0	0		Prod. csg. show of water to 0
7	1950	0	0	0		Prod. csg. trickle of water to 0
8	1800	0	0	0		~~Int. csg. blow~~
9	930	0	0	0		Burp tank on int.; int.shw of wtr; ~~prod. csg. blow~~; Yates gas
10	1150	0	0	0		Prod. blow; Yates gas
11	1950	0	0	0		
12	1950	0	0	0		Prod. csg. puff
14	2000	0	0	0		
15	1940	0	Puff	0		Prod. csg. show of water to 0
16	1925	0	0	0		Prod. csg. show of water to 0
18	0	0	0	0		T/A; prod. csg. puff
19	1900	0	Puff	0		
20	1900	0	0	0		
21	1800	0	0	0		
22	1850	0	0	0		
23	1950	0	0	0		Prod. csg. puff
24	1980	0	0	0		Prod. csg. puff
25	1960	0	0	0		
26	1950	0	0	0		
27	1940	0	0	0		~~Burp tank on int.~~; prod. csg. puff
28	1150	0	0	0		~~Burp tank on~~ surf.; prod. csg. puff
29	1925	0	Puff	0		~~Burp tank on surf.~~; prod. csg. show of water to 0

30	1950	0	0	0		Burp tank on int. csg.; int. trickle of wtr to 0; prod. csg. puff
31	1925	0	0	0		Prod. csg. show of water to 0
33	1900	0	0	0		
34	0	0	Puff	0		Prod. csg. show of water
35	1920	250	0	0		Prod. csg. bled to 0
36	1930	0	0	0		Burp tank on surf.
37	1950	0	0	0		Int. puff
37	1950	0	0	0		
38	1900	0	0	0		
40	2000	0	0	0		
41	1950	0	0	0		Prod. csg. show of fluid to 0
42	2000	0	0	0		
43	2000	0	0	0		
44	0	0	0	0		T/A; show of water to 0; prod. csg. gurgle of dirty water to 0
45	1850	0	Blow	0		Prod. csg. show of water to 0
46	2050	0	0	0		
47	1950	0	0	0		
48	2000	100	0	90		Int. did not bleed down; prod. csg. bled to 0
49	1950	0	0	0		Prod. csg. blow
50	1950	0	0	0		Int. puff
51	1950	0	0	0		Prod. csg. blow
52	2000	0	0	0		Show of oil prod. csg. gang will bleed down; oper. with bleed down
53	1800	0	0	0		Prod. csg. blow
54	1900	0	0	0		
55	2000	15	Burp tank on surf.	0		Burp tank on surf.; prod. csg. bled to 0
56	1950	0	0	0		Shut in due to lateral per Larry Williams/Lovington Field Office
57	2000	2000	0	95		Visible leak on side of prod. csg.; burp tank on int. - Failed well
58	0	0	Puff	0		Prod. csg. puff
59	1950	0	Blow	0		Prod. csg. blow

60	2000	0	0	0		Prod. csg. puff
61	1950	0	0	0		Prod. csg. show of water to 0
62	0	50	0	0		T/A; prod. csg. bled to 0
63	1950	0	0	0		
64	1900	140	Blow	0		Prod. csg. bled to 0
64	0	20	0	50		
65	1960	20	0	0		Prod. csg. bled to 0
67	1980	260	0	0		Prod. csg. bled to 0
68	2000	0	0	0		
69	1450	0	0	0		Prod. csg. puff
70	1950	0	0	0		
71	1550	40	0	0		Prod. csg. show of water to 0
73	2000	0	0	0		Prod. csg. show of oil bld to truck
75	1950	0	0	0		
77	1950	0	0	40		Int. bled to 0
80	2000	5	0	0		Prod. csg. bled to 0
82	0	40	0	50		T/A; show of oil did not bleed down; prod. csg. bled to 0
YEAR: 2006		**LEASE: LOVINGTON SAN ANDRES UNIT**				
1	2000	0	0	0		
3	1950	250	0	0		Burp tank on csg.; prod. csg. bled to 0
4	2000	0	0	0		
5	1750	0	0	0		
6	1600	0	0	0		T/A; on surf riser split on L connection
7	1340	0	0	0		
8	1950	0	0	0		
9	75	0	0	0		T/A; int. puff; prod. blow
10	2000	0	0	0		
11	2000	80	0	0		Burp tank on prod. csg.; show of packer fluid to 0

12	1945	40	0	0		Burp tank on csg.; bled prod. csg. to 0
13	1650	0	Puff	0		Burp tank on prod. csg.; prod. puff
15	1600	0	0	0		Int. puff; prod. puff
16	1950	0	0	0		
17	700	0	0	0		Prod. csg. blow gas and water to 0
18	650	0	0	0		Prod. csg. puff
20	1155	0	0	0		Prod. csg. puff
21	1950	0	Blow	0		Burp tank on surf.; prod. csg. puff
23	1750	0	0	0		
24	1800	0	0	0		
25	2000	0	0	0		
26	1980	150	0	0		Prod. csg. bled to 0
28	200	100	0	0		T/A; prod. bled to 0; packer fluid
29	1970	0	0	0		Int. puff; prod. blow
30	1970	0	0	0		Int. puff; prod. puff
31	2000	0	0	0		
32	1750	0	0	0		Prod. csg. puff
33	1925	0	0	0		Prod. csg. puff
34	1950	0	0	0		Prod. csg. blow
35	1280	0	Puff	0		
36	1925	0	0	0		Prod. csg. blow of water to 0
37	700	125	0	0		T/A; prod. bled to 0
38	0	300	0	0		Shut in for injection line repair; int. blow; prod. blow to 0
39	2000	0	0	20		
40	1900	0	0	0		Int. puff; prod. blow
41	2000	0	0	0		
42	800	0	Blow	0		
43	1425	0	0	0		Burp tank on int.; int. fluid to 0; prod. blow
45	1700	0	0	0		
47	1750	0	Puff	0		Prod. puff

48	1880	0	0	100		Int. bled to 0; prod. show water to 0
49	1060	0	0	50		Pressure test failure - Failed
50	1950	0	0	0		
54	400	0	0	0		Possible tbg./coupling or packer leak Failed to chart
57	1800	0	0	0		Int. puff; prod. puff
58	0	0	0	0		Prod. csg. show of oil to 0
59	2000	0	Burp tank on surf.	0		Burp tank on surf.; show of packer fluid

79th year, No. 176 THURSDAY July 13, 2006 50 cents

News-Sun

JAL EUNICE HOBBS LOVINGTON TATUM SEMINOLE DENVER CITY

Lovington weekly water tests proves to be suspect

False Positive

JEREMY DUDA
NEWS-SUN

LOVINGTON — Residents can breathe a sigh of relief after two water wells thought to be contaminated went back into operation.

Wells No. 17 and 21 were put back online on Sunday in a water field south of Lovington after additional tests showed no hydrocarbon contamination.

"We suspect that that initial test was a false positive," said City Manager Pat Wise.

In late June, routine testing showed the two wells as exceeding New Mexico Water Quality Standards Board guidelines for chlorides and hydrocarbons, which are salt and petroleum. The results led the city to shut down two of its most productive wells and closely monitor two neighboring wells while Lovington awaited results from additional testing.

Wise said the tests by Trace Laboratories in Lubbock and Pinnacle Labs in Albuquerque, conducted for the New Mexico Environment Department, showed water from the two wells to contain no hydrocarbons and less than 250 parts per million of chloride, putting the water in line with state guidelines.

The chloride readings could have been false positives as well, Wise said, or salt could have accumulated while water was standing still and not being pumped. Either way, the high chloride numbers from the original tests have abated.

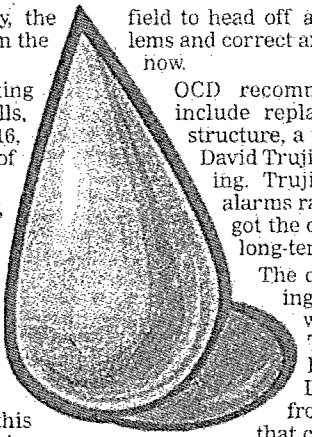
The city is still conducting daily testing of the two wells, as well as wells No. 13 and 16, which lie directly north of the closed wells.

"If we're going to err, we're going to err on the side of caution," Wise said.

Wise said he did not know how long the city would continue to monitor the four wells on a daily basis.

"We're going to look at this as we go and adjust our testing regimen as we think prudent," he said.

The state Oil Conservation Division in Santa Fe is also conducting a comprehensive audit of Lovington's well field to head off any potential problems and correct any that might exist now.



OCD recommendations could include replacement of infrastructure, a project that Mayor David Trujillo is already pushing. Trujillo said the false alarms raised a red flag and got the city thinking about long-term strategy.

The city has state funding to construct new water wells, which Trujillo said will likely be north of Lovington, further from oilfield activity that could lead to hydrocarbon contamination.

"Even though it was a false alarm, you've got to look at long-term planning," Trujillo said.

atta: Glenn VonGonten

Pat Wise

From: "Pat Wise" <pwise@lovington-nm.org>
To: "Neil Granath" <neil@lovingtononline.com>; "David Trujillo" <dtrujillo@csw.edu>; "Arthur Sanchez" <daddyoart7@walmart.com>; "Dixie Drummond" <dixie_dale_2000@yahoo.com>; "Troy Harris" <tjssharris@aol.com>
Cc: "Patrick B. McMahon" <hsncpbm@leaco.net>; <kurtporter@valornet.com>; "Chan Kim" <ckim@lovington-nm.org>
Sent: Monday, July 03, 2006 11:49 AM
Subject: Well Field Status

Good Morning Mayor and Commissioners:

Update on our well field . . . .

The Chlorides tests on wells #17 and #21 came in at 116 and 64 mg/L, and they have been put back into the system. We will test daily and monitor closely.

I have initiated a testing regimen for wells #16 and #13 (two wells directly north of #17, by Cardinal Labs, and tests pulled 06/23/06, just received today indicate TPH (total produced hydrocarbons) in well #16 at 8.95 mg/L, so I have pulled it out of production, pending verification of the test by Trace Labs. Wayne Price, the Environment Chief of OCD did inform Patrick and I last week that the State has dropped Cardinal from their approved list of labs, due to a recurring incidence of false positives for TPH, so I don't know how much credence to put in their results, but it certainly bears checking out. This entire scenario is fluid (pardon the pun) in nature, so it mandates constant monitoring, and to err on the side of caution would be the optimum choice obviously. Water levels in town are holding fine.

On another note, police calls for fireworks are amazingly low. It seems the public is genuinely trying to cooperate. As sure as I say that, we could break out in to a full battle position at any time, but for the present, things are relatively quiet. If you have any questions, suggestions, or would like more information, please call, stop or email. Thanks, and by the way, the Lovington PD is sponsoring some sort of inflated jumping cage at the Park tomorrow, and Chief Kim wanted to extend a personal invitation to all of you to stop by for his world famous asado, ribs, etc at their station just to the right of the entrance to the park. Sharon and I will be out there for a short time, depending on how my back holds out. Enjoy the holiday.

Pat Wise, Manager
City of Lovington
Phone 505.396.2884
Facsimile 505.396.6328
pwise@lovington-nm.org

CITY OF LOVINGTON

214 South Love ~ Post Office Box 1269
Lovington, New Mexico 88260

BUSINESS
505.396.2884
FACSIMILE
505.396.6328
E-MAIL
admin@lovington-nm.org

Office of the City Manager

Date: 07/03/06

To: Kurt Porter, Water Superintendent

Fr: Pat Wise, City Manager

Re: Water Field Testing

Per our discussions, place wells #17 and #21 back into the system and initiate daily testing of the wells for Cl, btex, and TPH. Have Trace Labs email you the results immediately, as we must stay on top of this situation, as you are aware. Additionally, take well #16 out of service pending retesting of TPH by Trace. Thanks for staying on top of this ever changing scenario . . . I appreciate your dedication to helping ensure the safety of our potable water supply.

xc: Patrick McMahon, Legal Counsel

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
CITY OF LOVINGTON
ATTN: KURT PORTER
P.O. BOX 1268
LOVINGTON, NM 88260
FAX TO:

Receiving Date: 06/30/06
Reporting Date: 06/30/06
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: WATER FIELD

Analysis Date: 06/30/06
Sampling Date: 06/30/06
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: LB

LAB NO.	SAMPLE ID	Cl^- (mg/L)
H11304-1	17-4CO	116
H11304-2	21-4CO	64
H11304-3	22-4CO	4
Quality Control		980
True Value QC		1000
% Recovery		98
Relative Percent Difference		0.0

METHOD: Standard Methods	4500-ClB

Chemist

6/30/06
Date

H11304

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
CITY OF LOVINGTON
ATTN: KURT PORTER
P.O. BOX 1268
LOVINGTON, NM 88260
FAX TO: (505) 396-6328

Receiving Date: 06/23/06
Reporting Date: 06/29/06
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Sampling Date: 06/23/06
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: HM
Analyzed By: NF/AB

LAB NUMBER	SAMPLE ID	TPH (mg/L)	Cl (mg/L)
ANALYSIS DATE:		06/27/06	06/23/06
H11270-1	13-1	<1.00	148
H11270-2	16-1	8.95	52
Quality Control		29.41	980
True Value QC		30.00	1000
% Recovery		98.0	98.0
Relative Percent Difference		1.1	1.0

METHODS: TPH-EPA 600/4-79-020 418.1; Cl-Std. Methods 4500-Cl'B

Chemist

6/27/06
Date

H11270

LOVINGTON WELL FIELD

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

July 5, 2006

COPY

Ms. Camille Reynolds
Plains Marketing, L.P.
3112 West Highway 82
Lovington, NM 88260

RE: REQUIREMENT TO SUBMIT ABATEMENT PLAN
PLAINS 34 JUNCTION SOUTH STATION SITE
SW/4 SW/4 SECTION 2, TOWNSHIP 17 SOUTH, RANGE 36 EAST
LEA COUNTY, NEW MEXICO
1R0456

Dear Ms. Reynolds:

The New Mexico Oil Conservation Division (OCD) has determined upon further review of the *2005 Annual Monitoring Report* submitted by Plains All American (Plains), that Plains must submit a Stage 1 Abatement Plan to investigate the ground water contamination at its 34 Junction South Station located in Section 2, Township 17 South, Range 36 East, in Lea County, New Mexico. The Stage 1 Abatement Plan proposal must be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office and must meet of all the requirements specified in Rule 19 (19.15.1.19 NMAC), including, but not limited to, the public notice and participation requirements specified in Rule 19G. The Stage 1 Abatement Plan is due sixty (60) days from the receipt by Plains of this written notice. OCD is requiring a Stage 1 Abatement Plan rather than the Remediation Work Plan previously specified by OCD on April 13, 2006, because OCD has determined that Plains cannot practically delineate and remediate the volume of phase-separated hydrocarbons already detected at its site within one year as specified in Rule 19D.

Plains' Stage 1 Abatement Plan must meet all of the requirements specified in Rule 19E.3, including, but not limited to, a site investigation work plan and monitoring program that will enable it to characterize the petroleum hydrocarbon release and to provide the data necessary to select and design an effective abatement option.

In addition, please address the status of the additional monitoring wells that Plains proposed in February 2006. Also, OCD notes that Plains has consistently reported the location of the release at its metering station as being in Section 2, 17 S, 36 E. However, OCD records indicate that the metering station might actually be located in Section 34, 16 S, 36 E. OCD notes that the site is referred to as "*34 Junction South.*" Please check your records to resolve this issue.

Plains should submit one paper copy and one electronic copy of all future workplans and/or reports. If you have any questions, please contact Glenn von Gonten of my staff at (505) 476-3488.

Sincerely,

Wayne Price
Environmental Bureau Chief

cc: Paul Sheeley, OCD Hobbs District Office
Pat Wise, Lovington City Manager

Water wells tested

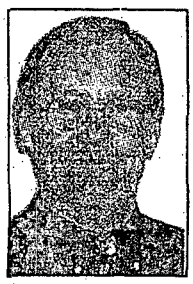
Wells shut down after possible contamination detected in Lovington

JEREMY DUDA
NEWS-SUN

LOVINGTON — City officials are waiting on test results to confirm whether Lovington's two most productive water wells are contaminated.

Last week, routine testing showed excessive amounts of chloride and hydrocarbons in the city's No. 17 and 21 wells. Trace Laboratories of Lubbock and the New Mexico Environmental Department are doing more extensive tests on water samples to verify the original results.

City Manager Pat Wise said the two wells have been shut down and two neighboring wells are being closely monitored.



Wise

"I want to have those extensive test results back before we jump to any conclusions," Wise said. "They'll confirm this information that we have from testing on (June 13), or deny. If it backs it up, we've got a problem."

If the test results come back positive for chloride and hydrocarbons, which are salt and petroleum, respectively, Wise said the city will investigate the source of the contamination and force those responsible to conduct a cleanup. If the wells cannot be cleaned, Wise said, the city will have to drill more wells to replace them.

The city is also conducting an investigation into the source of the contamination in conjunction with the state Oil Conservation Division. Wise said he is positive that the contamination was caused by oilfield activity, though he is not sure which company.

"I don't want to say who until I have proof, and I won't know for sure until I have proof," Wise said.

Wise said there was no danger to Lovington residents from any contaminated water from the two wells that may have reached the city's drinking water. The chloride poses no threat, he said, and the hydrocarbons, while dangerous, would have been greatly diluted by water from the other wells.

Wise said there is no danger to the city's drinking water, but encourages people to curb water usage while Lovington's best two wells are shut down.

"Just be prudent and don't waste it," he said.

Under New Mexico Water

SEE WATER, Page 5

Water

from PAGE 1

Quality Standards Board guidelines, drinking water can have 250 parts per million of chloride and no hydrocarbons. The water from well No. 17 had 832 parts per million of chloride and 11.1 of hydrocarbons. Well No. 21 had 400 parts of chloride and 2.78 of hydrocarbons.

Mayor David Trujillo described the contamination as a short-term problem.

"As long as it doesn't escalate, we should be fine," he said.

Trujillo said the city is trying to prevent future contamination, Lovington will try to get state funding during the 2007 legislative session to drill more water wells on the north side of town, more distant from oilfield activities of the south side.

"There's a lot of oilfield traffic in that southern part of town and we're going to try to get away from some of that so we won't have mishaps," he said.

P.01

TRANSACTION REPORT

FEB-24-2005 THU 12:46 PM

FOR:

DATE	START	RECEIVER	TX TIME	PAGES	TYPE	NOTE	M#	DP
FEB-24	12:44 PM	915053965305	2′15″	7	SEND	OK	008	

TOTAL : 2M 15S PAGES: 7

Fax

To: Patrick McMahon

Fax: 505-396-5305

Pages: 7, including this cover sheet.

Date: February 24, 2005

Patrick:

As per your discussion with Ed Martin, I am sending you a copy of the Mack Energy analytical results.

If you have any questions, please call me at 505-476-3488.

Glenn von Gonten

Fax

To: Patrick McMahon

Fax: 505-396-5305

Pages: 7, including this cover sheet.

Date: February 24, 2005

Patrick:

As per your discussion with Ed Martin, I am sending you a copy of the Mack Energy analytical results.

If you have any questions, please call me at 505-476-3488.

Glenn von Gonten

From the desk of...

Glenn von Gonten
New Mexico Environment Department
Hazardous Waste Bureau
Permits Management Program
2905 Rodeo Park Drive East, Building 1
P.O BOX 26110
Santa Fe, NM 87505-2100
505-428-2551
Fax: 505-827-1545

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENATL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #102
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-001
Project Name: MONSANTO #5
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		01/19/05	01/19/05	01/19/05	01/19/05
H9484-1	MW#`1	<0.002	<0.002	<0.002	<0.006
H9484-2	MW#`2	<0.002	<0.002	<0.002	<0.006
H9484-3	MW#`3	<0.002	<0.002	<0.002	<0.006
H9484-4	MW#`4	<0.002	<0.002	<0.002	<0.006
Quality Control		0.098	0.091	0.096	0.304
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.8	91.3	95.8	101.0
Relative Percent Difference		2.0	1.2	1.7	1.6

METHOD: EPA SW-846 8260

Chemist

1/20/5
Date

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #102
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-001
Project Name: MONSANTO #5
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3$/L)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/19/05
H9484-1	MW #1	132	292	185	12.1	2926	160
H9484-2	MW #2	24	52	24	2.85	608	180
H9484-3	MW #3	18	55	29	1.99	499	192
H9484-4	MW #4	18	52	28	2.09	509	184
Quality Control		NR	58	54	4.90	1322	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	116	108	98.0	93.6	NR
Relative Percent Difference		NR	3.1	3.8	0.8	0.7	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/20/05
H9484-1	MW #1	1120	53.8	0	195	6.35	2403
H9484-2	MW #2	36	50.5	0	220	6.55	413
H9484-3	MW #3	32	58.9	0	234	6.56	428
H9484-4	MW #4	32	56.3	0	224	6.60	424
Quality Control		970	50.33	NR	961	7.03	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		97.0	101	NR	96.1	103	NR
Relative Percent Difference		4.0	0.2	NR	1.6	0.6	1.4
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Amy Hill
Chemist

1/20/05
Date

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page ____ of ____

Company Name: SESI	BILL TO: PO #:
Project Manager: Bob Allen	Company:
Address: 703 E. Clinton	Attn: Bond;
City: Hobbs State: NM Zip: 88241	Address:
Phone #: 505-397-0510	City:
Fax #:	State: Zip:
Project #: MAC-04-001 Project Owner: Mack Energy	Phone #:
Project Name: Monsanto #5	Fax #:
Project Location: Lovington, NM	

FOR LAB USE ONLY				MATRIX							PRES.		SAMPLING		ANALYSIS REQUEST											
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID:	ICE / COOL	OTHER:	DATE	TIME	Cations, Anions	BTEX										
H9484-1	MW#1	G	3	X							X		1-18	12:25	X	X										
-2	MW#2	G	3	X							X		1-18	11:40	X	X										
-3	MW#3	G	3	X							X		1-18	12:00	X	X										
-4	MW#4	G	3	X							X		1-18	12:45	X	X										

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished:	Date: 1-18-05	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time: 1:48		Fax Result: ☒ Yes ☐ No
Relinquished By:	Date:	Received By: (Lab Staff)	REMARKS:
	Time:		
Delivered By: (Circle One)	Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:			

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENATL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #102
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-003
Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		01/19/05	01/19/05	01/19/05	01/19/05
H9483-1	MW#`1	<0.002	<0.002	<0.002	<0.006
H9483-2	MW#`2	<0.002	<0.002	<0.002	<0.006
H9483-3	MW#`3	<0.002	<0.002	<0.002	<0.006
H9483-4	MW#`4	<0.002	<0.002	<0.002	<0.006
Quality Control		0.098	0.091	0.096	0.304
True Value QC		0.100	0.100	0.100	0.300
% Recovery		97.8	91.3	95.8	101.0
Relative Percent Difference		2.0	1.2	1.7	1.6

METHOD: EPA SW-846 8260

Chemist

1/20/5
Date

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
SAFETY & ENVIRONMENTAL SOLUTIONS, INC.
ATTN: BOB ALLEN
703 E. CLINTON, #102
HOBBS, NM 88240
FAX TO: (505) 393-4388

Receiving Date: 01/18/05
Reporting Date: 01/20/05
Project Number: MAC-04-003
Project Name: MONSANTO #4
Project Location: LOVINGTON, NM

Sampling Date: 01/18/05
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity ($mgCaCO_3/L$)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/19/05
H9483-1	MW #1	368	277	38	8.83	2203	220
H9483-2	MW #2	44	58	20	2.46	626	204
H9483-3	MW #3	38	45	17	4.47	572	184
H9483-4	MW #4	35	52	19	4.93	608	184
Quality Control		NR	58	54	4.90	1322	NR
True Value QC		NR	50	50	5.00	1413	NR
% Recovery		NR	116	108	98.0	93.6	NR
Relative Percent Difference		NR	3.1	3.8	0.8	0.7	NR
METHODS:			SM3500-Ca-D	3500-Mg E	8049	120.1	310.1

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)	SO_4 (mg/L)	CO_3 (mg/L)	HCO_3 (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		01/19/05	01/19/05	01/19/05	01/19/05	01/19/05	01/20/05
H9483-1	MW #1	960	85.5	0	268	6.24	2052
H9483-2	MW #2	44	58.6	0	249	6.38	480
H9483-3	MW #3	32	39.4	0	224	6.46	428
H9483-4	MW #4	36	54.4	0	224	6.51	424
Quality Control		970	50.33	NR	961	7.03	NR
True Value QC		1000	50.00	NR	1000	7.00	NR
% Recovery		97.0	101	NR	96.1	103	NR
Relative Percent Difference		4.0	0.2	NR	1.6	0.6	1.4
METHODS:		SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1

Chemist

1/20/05
Date

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of____

Company Name: SESI
Project Manager: Bob Allen
Address: 703 E Clinton
City: Hobbs State: NM Zip: 88241
Phone #: 505-397-0510
Fax #:
Project #: MAC-04-003 Project Owner: Mack Energy
Project Name: Monsanto #4
Project Location: Lovington, NM

BILL TO — PO #:
Company:
Attn: Brand
Address:
City:
State: Zip:
Phone #:
Fax #:

ANALYSIS REQUEST: Cations, Anions; BTEX

LAB I.D. (FOR LAB USE ONLY)	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRES.: ACID:	ICE / COOL	OTHER:	SAMPLING: DATE (2005)	TIME	Cations, Anions	BTEX
H9483-1	MW #1	G	3	X							X		1-18	9:15	X	X
-2	MW #2	G	3	X							X		1-18	11:05	X	X
-3	MW #3	G	3	X							X		1-18	10:15	X	X
-4	MW #4	G	3	X							X		1-18	9:45	X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: [signature] Date: 1-18-05 Time: 1:46
Received By:

Relinquished By: Date: 1/18/05 Time:
Received By: (Lab Staff) Amy Hill

Delivered By: (Circle One) Sampler (circled) - UPS - Bus - Other:

Sample Condition: Cool ☐ Yes ☐ No; Intact ☐ Yes ☐ No
CHECKED BY: (Initials)

Phone Result ☐ Yes ☐ No Additional Fax #:
Fax Result: ☐ Yes ☐ No
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

CARDINAL LABORATORIES

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Patrick

ANALYTICAL RESULTS FOR
CITY OF LOVINGTON
ATTN: ROGER PRICE
P.O. BOX 1268
LOVINGTON, NM 88260
FAX TO:

Receiving Date: 02/10/04
Reporting Date: 02/10/04
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Analysis Date: 02/10/04
Sampling Date: 02/10/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)
H8451-1	WELL #17	244
H8451-2	WELL #21	216
Quality Control		1000
True Value QC		1000
% Recovery		100
Relative Percent Difference		2.0
METHOD: Standard Methods		4500-Cl^-B

Amy Hill
Chemist

2/10/04
Date

h8451

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

LABORATORY NO. 1203-2 (pg 1)
SAMPLE RECEIVED 11-10-03
RESULTS REPORTED 12-1-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP
LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #2. 11-10-03
NO. 2 Raw water - taken from City of Lovington water well #3. 11-10-03
NO. 3 Raw water - taken from City of Lovington water well #16. 11-10-03
NO. 4 Raw water - taken from City of Lovington water well #17. 11-10-03

REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0008	1.0009	1.0009	1.0011
pH When Sampled				
pH When Received	7.33	7.35	7.35	7.15
Bicarbonate as HCO_3	200	210	224	215
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	224	212	208	396
Calcium as Ca	83	69	80	146
Magnesium as Mg	4	10	2	8
Sodium and/or Potassium	35	50	54	122
Sulfate as SO_4	71	76	76	131
Chloride as Cl	44	50	44	247
Iron as Fe	0.30	0.15	1.88	0.25
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	437	464	480	869
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	19.75	17.55	17.70	7.98
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.9	2.4	3.4	3.2
Total Petroleum Hydrocarbons	<3.0	<3.0	<3.0	<3.0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Form No. 3

By Ellen Ogden

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

LABORATORY NO. 1203-2 (pg 2)
SAMPLE RECEIVED 11-10-03
RESULTS REPORTED 12-1-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #18. 11-10-03
NO. 2 Raw water - taken from City of Lovington water well #21. 11-10-03
NO. 3
NO. 4
REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0012	1.0015		
pH When Sampled				
pH When Received	7.26	7.06		
Bicarbonate as HCO_3	224	215		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	320	400		
Calcium as Ca	101	144		
Magnesium as Mg	17	10		
Sodium and/or Potassium	82	123		
Sulfate as SO_4	122	140		
Chloride as Cl	134	244		
Iron as Fe	0.25	2.0		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	680	876		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	11.02	7.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	3.6	3.2		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden

Greg Ogden, B.S.

P. O. BOX 1468
JAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 803-99 (pg 2)
SAMPLE RECEIVED 8-5-03
RESULTS REPORTED 8-19-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #18. 8-5-03
NO. 2 Raw water - taken from City of Lovington water well #21. 8-5-03
NO. 3
NO. 4
REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0010	1.0015		
pH When Sampled				
pH When Received	7.31	7.21		
Bicarbonate as HCO_3	220	215		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	232	284		
Calcium as Ca	78	88		
Magnesium as Mg	9	16		
Sodium and/or Potassium	41	53		
Sulfate as SO_4	86	92		
Chloride as Cl	37	91		
Iron as Fe	0.10	0.15		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	471	555		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	17.90	13.85		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.6	3.1		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden

Greg Ogden, B.S.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 803-99 (pg 1)
SAMPLE RECEIVED 8-5-03
RESULTS REPORTED 8-19-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from City of Lovington water well #2. 8-5-03
NO. 2 Raw water - taken from City of Lovington water well #12. 8-5-03
NO. 3 Raw water - taken from City of Lovington water well #16. 8-5-03
NO. 4 Raw water - taken from City of Lovington water well #17. 8-5-03

REMARKS: Sample taken by Chuck Emerson, MWL, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0010	1.0010	1.0012	1.0014
pH When Sampled				
pH When Received	7.39	7.27	7.23	7.09
Bicarbonate as HCO_3	200	210	210	210
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	212	232	240	428
Calcium as Ca	72	75	80	146
Magnesium as Mg	8	11	10	16
Sodium and/or Potassium	41	49	40	71
Sulfate as SO_4	87	112	103	124
Chloride as Cl	33	36	34	199
Iron as Fe	0.00	0.15	0.10	0.05
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	440	492	477	765
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	19.75	17.50	17.60	8.84
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	3.1	3.3	3.0	3.0
Total Petroleum Hydrocarbons	<3.0	<3.0	<3.0	<3.0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Form No. 3

By _____

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 503-65 (page 2)
SAMPLE RECEIVED 5-1-03
RESULTS REPORTED 5-13-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #17. 5-1-03
NO. 2 Raw water - taken from City of Lovington water well #21. 5-1-03
NO. 3
NO. 4
REMARKS: Sample taken by Chuck Emerson, Martin Water Laboratories, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0019	1.0014		
pH When Sampled				
pH When Received	7.21	7.34		
Bicarbonate as HCO_3	205	210		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	412	260		
Calcium as Ca	133	86		
Magnesium as Mg	19	11		
Sodium and/or Potassium	81	52		
Sulfate as SO_4	118	70		
Chloride as Cl	210	91		
Iron as Fe	0.05	0.05		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	766	521		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	8.70	14.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.5	4.9		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden
Greg Ogden, B.S.

P. O. BOX 1468
JNAHANS, TEXAS 79756
/H. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

LABORATORY NO. 203-215 (page 2)
SAMPLE RECEIVED 2/26/03
RESULTS REPORTED 3/12/03

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #17. 2/26/03
NO. 2 Raw water - taken from City of Lovington water well #21. 2/26/03
NO. 3
NO. 4
REMARKS: Sample taken by Chuck Emerson, Martin Water Laboratories, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0017	1.0016		
pH When Sampled				
pH When Received	7.19	7.26		
Bicarbonate as HCO_3	205	205		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	424	260		
Calcium as Ca	141	88		
Magnesium as Mg	17	10		
Sodium and/or Potassium	65	52		
Sulfate as SO_4	71	72		
Chloride as Cl	230	92		
Iron as Fe	0.15	0.10		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	730	520		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	9.10	14.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.9	4.9		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By _____

Waylan C. Martin, M.A.

HP OfficeJet
Personal **Printer/Fax/Copier**

Fax Log Report for
Heidel, Samberson, Newell
505-396-5310
Feb-10-04 10:00 AM

Identification	Result	Pages	Type	Date	Time	Duration	Diagnostic
3934388	OK	07	Sent	Feb-10	09:57A	00:02:52	002582030022

1.1.0 2.8

LAW OFFICES

HEIDEL, SAMBERSON, NEWELL, COX & MCMAHON

C. GENE SAMBERSON
MICHAEL T. NEWELL
LEWIS C. COX, III
PATRICK B. MCMAHON

311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NEW MEXICO 88260
TELEPHONE (505) 396-5303
FAX (505) 396-5305

F.L. HEIDEL
(1913-1985)

TELECOPY TRANSMITTAL SHEET

****

DATE: February 19, 2004 TIME: 10:49 AM

TO: Wayne Price (505) 476-3462

Re: **City of Lovington Water Wells (NO. 17 and 21)**

YOU SHOULD RECEIVE 11 PAGE(S) OF COPY, INCLUDING THIS COVER PAGE. PLEASE NOTIFY US IMMEDIATELY AT (505) 396-5303 IF NOT RECEIVED PROPERLY.

- (X) FOR YOUR INFORMATION/RECORDS
- ( ) AS WAS DISCUSSED
- ( ) FOR YOUR REVIEW
- ( ) PER YOUR REQUEST
- ( ) FOR YOUR COMMENTS
- ( ) PLEASE CALL ABOUT THIS

If you have any questions, please do not hesitate to call.

IF CHECKED ORIGINAL WILL BE FORWARDED TO YOU BY:
( ) FEDERAL EXPRESS ( ) REGULAR MAIL

TIIANK YOU,

HEIDEL, SAMBERSON, NEWELL, COX & MCMAHON

Cheryl

By: Cheryl Dudley, Secretary for,
Patrick B. McMahon

LAW OFFICES

HEIDEL, SAMBERSON, NEWELL, COX & McMAHON

C. GENE SAMBERSON
MICHAEL T. NEWELL
LEWIS C. COX, III
PATRICK B. McMAHON

311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NM 88260
TELEPHONE (505) 396-5303
FAX (505) 396-5305

F.L. HEIDEL
(1913-1985)

February 19, 2004

Wayne Price
P. O. Box 6429
Santa Fe NM 87504-6429

Re: City of Lovington Water Wells (No. 17 and No. 21)

Dear Mr. Price,

As per our conversation please find enclosed a map showing a portion of the City's water field. The map identifies the location of well numbers 17 and 21, as well as, the Apollo State AE/Penrock Battery and the Sage Petroleum Apollo SWD (identified as Penrock Batt.).

Also, enclosed are copies of water analysis' results for city water wells including 17 and 21. These samples were collected by Pure Resources personnel. Although well number 17 is close to the 250ppm Chloride limit, the fluctuation in sample results is not large. Well number 21, however, does exhibit a marked increased of chlorides from August 2003 to November of 2003, and approaches the 250ppm limit. Sampling protocol should be confirmed with Pure Resources.

Additionally, I have enclosed sample results from Mr. Bob Allen taken on or about February 10, 2004. Although the chloride level in well number 21 has decreased from the November 2003 result, sample results appear to confirm a recent spike in chlorides. Mr. Allen and the City will be re-sampling well number 21 in the very near future. I will forward sample results as they become available.

Your attention to this matter is greatly appreciated. If you have any questions, please do not hesitate to call.

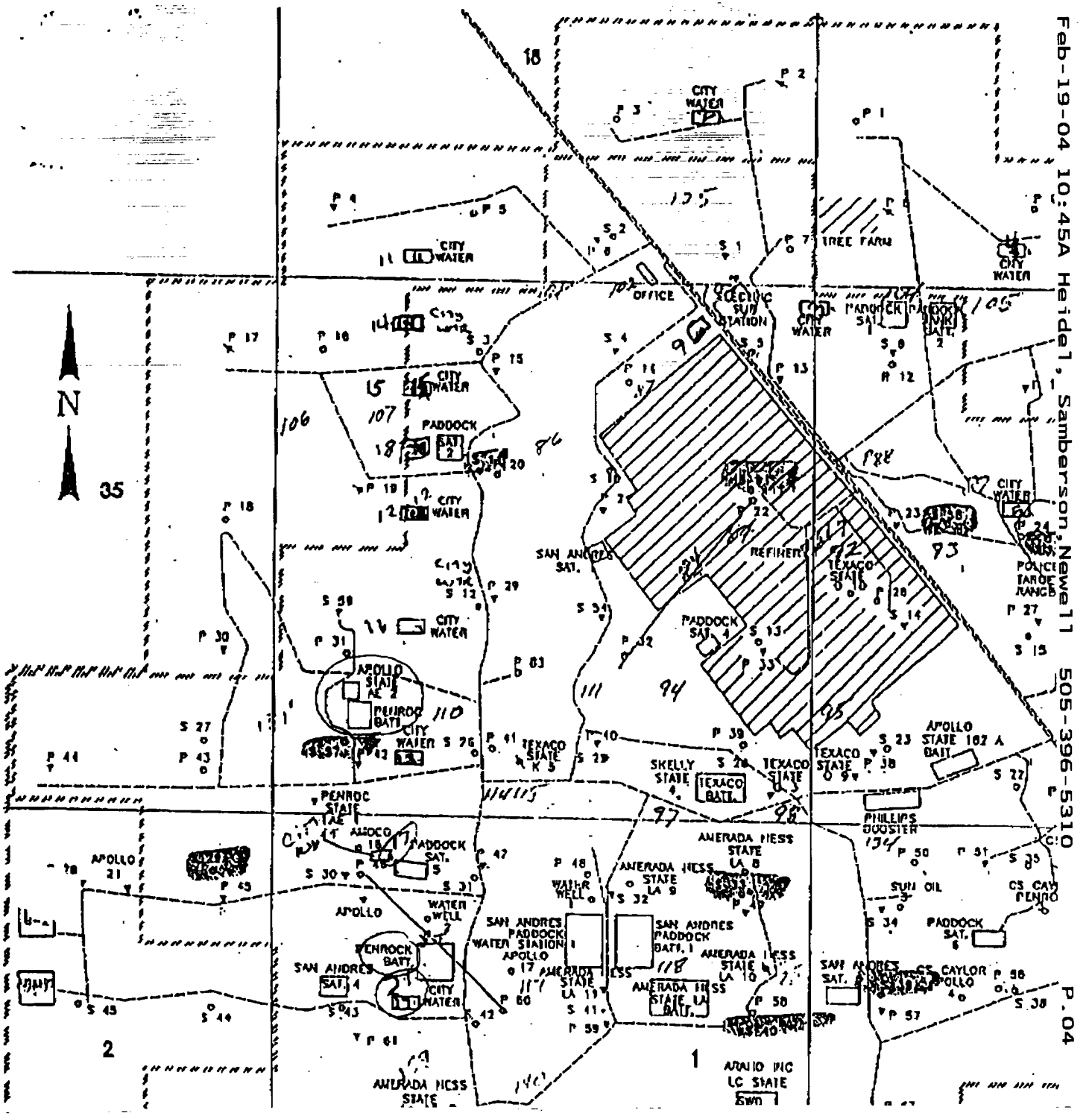
Sincerely,

HEIDEL, SAMBERSON, NEWELL, COX & MCMAHON

By: Patrick B. McMahon

Patrick B. McMahon

PBM:cd
Enclosures
pc: Pat Wise, Lovington City Manager
Eddie Seay
Bob Allen



CARDINAL LABORATORIES

Patrick

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
CITY OF LOVINGTON
ATTN: ROGER PRICE
P.O. BOX 1268
LOVINGTON, NM 88260
FAX TO:

Receiving Date: 02/10/04
Reporting Date: 02/10/04
Project Number: NOT GIVEN
Project Name: NOT GIVEN
Project Location: NOT GIVEN

Analysis Date: 02/10/04
Sampling Date: 02/10/04
Sample Type: GROUNDWATER
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl^- (mg/L)
H8451-1	WELL #17	244
H8451-2	WELL #21	216
Quality Control		1000
True Value QC		1000
% Recovery		100
Relative Percent Difference		2.0
METHOD: Standard Methods		4500-ClB

Amy Hill
Chemist

2/10/04
Date

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

LABORATORY NO. 1203-2 (pg 1)
SAMPLE RECEIVED 11-10-03
RESULTS REPORTED 12-1-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #2. 11-10-03
NO. 2 Raw water - taken from City of Lovington water well #3. 11-10-03
NO. 3 Raw water - taken from City of Lovington water well #16. 11-10-03
NO. 4 Raw water - taken from City of Lovington water well #17. 11-10-03

REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0008	1.0009	1.0009	1.0011
pH When Sampled				
pH When Received	7.33	7.35	7.35	7.15
Bicarbonate as HCO_3	200	210	224	215
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	224	212	208	396
Calcium as Ca	83	69	80	146
Magnesium as Mg	4	10	2	8
Sodium and/or Potassium	35	50	54	122
Sulfate as SO_4	71	76	76	131
Chloride as Cl	44	50	44	247
Iron as Fe	0.30	0.15	1.88	0.25
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	437	464	480	869
Temperature °F				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohmsm at 77° F.	19.75	17.55	17.70	7.98
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.9	2.4	3.4	3.2
Total Petroleum Hydrocarbons	<3.0	<3.0	<3.0	<3.0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Form No. 3

By

P.O. BOX 98
MIDLAND, TX. 79702
PHONE (432) 683-4521

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
FAX (432) 682-8819

RESULT OF WATER ANALYSES

LABORATORY NO. 1203-2 (pg 2)
SAMPLE RECEIVED 11-10-03
RESULTS REPORTED 12-1-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #18. 11-10-03
NO. 2 Raw water - taken from City of Lovington water well #21. 11-10-03
NO. 3
NO. 4
REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0012	1.0015		
pH When Sampled				
pH When Received	7.26	7.06		
Bicarbonate as HCO_3	224	215		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	320	400		
Calcium as Ca	101	144		
Magnesium as Mg	17	10		
Sodium and/or Potassium	82	123		
Sulfate as SO_4	122	140		
Chloride as Cl	134	244		
Iron as Fe	0.25	2.0		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	680	876		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohmsm at 77° F.	11.02	7.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	3.6	3.2		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden, B.S.

P. O. BOX 1468
JAHANAS, TEXAS 79756
PH. 943 3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

LABORATORY NO. 803-99 (pg 2)
SAMPLE RECEIVED 8-5-03
RESULTS REPORTED 8-19-03

COMPANY Pure Resources, LP
LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Raw water - taken from City of Lovington water well #18. 8-5-03
NO. 2 Raw water - taken from City of Lovington water well #21. 8-5-03
NO. 3
NO. 4

REMARKS: Samples taken by Chuck Emerson, Martin Water Labs, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0010	1.0015		
pH When Sampled				
pH When Received	7.31	7.21		
Bicarbonate as HCO_3	220	215		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	232	284		
Calcium as Ca	78	88		
Magnesium as Mg	9	16		
Sodium and/or Potassium	41	53		
Sulfate as SO_4	86	92		
Chloride as Cl	37	91		
Iron as Fe	0.10	0.15		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	471	555		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohmsm at 77° F.	17.90	13.85		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	2.6	3.1		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden

Greg Ogden, B.S.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH. 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

LABORATORY NO. 803-99 (pg 1)
SAMPLE RECEIVED 8-5-03
RESULTS REPORTED 8-19-03

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #2. 8-5-03
NO. 2 Raw water - taken from City of Lovington water well #12. 8-5-03
NO. 3 Raw water - taken from City of Lovington water well #16. 8-5-03
NO. 4 Raw water - taken from City of Lovington water well #17. 8-5-03
REMARKS: Sample taken by Chuck Emerson, MWL, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0010	1.0010	1.0012	1.0014
pH When Sampled				
pH When Received	7.39	7.27	7.23	7.09
Bicarbonate as HCO_3	200	210	210	210
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	212	232	240	428
Calcium as Ca	72	75	80	146
Magnesium as Mg	8	11	10	16
Sodium and/or Potassium	41	49	40	71
Sulfate as SO_4	87	112	103	124
Chloride as Cl	33	36	34	199
Iron as Fe	0.00	0.15	0.10	0.05
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	440	492	477	765
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	19.75	17.50	17.60	8.84
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	3.1	3.3	3.0	3.0
Total Petroleum Hydrocarbons	<3.0	<3.0	<3.0	<3.0

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

Form No. 3

By ____

P. O. BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 503-65 (page 2)
SAMPLE RECEIVED 5-1-03
RESULTS REPORTED 5-13-03

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #17. 5-1-03
NO. 2 Raw water - taken from City of Lovington water well #21. 5-1-03
NO. 3
NO. 4
REMARKS: Sample taken by Chuck Emerson, Martin Water Laboratories, Inc.

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0019	1.0014		
pH When Sampled				
pH When Received	7.21	7.34		
Bicarbonate as HCO_3	205	210		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	412	260		
Calcium as Ca	133	86		
Magnesium as Mg	19	11		
Sodium and/or Potassium	81	52		
Sulfate as SO_4	118	70		
Chloride as Cl	210	91		
Iron as Fe	0.05	0.05		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	766	521		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohm/m at 77° F.	8.70	14.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.5	4.9		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By Greg Ogden
Greg Ogden, B.S.

P O BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

TO: Mr. Tejay Simpson
P.O. Box 609, Lovington, NM 88260-0609

LABORATORY NO. 203-215 (page 2)
SAMPLE RECEIVED 2/26/03
RESULTS REPORTED 3/12/03

COMPANY Pure Resources, LP LEASE Lovington San Andres Unit
FIELD OR POOL Lovington
SECTION ____ BLOCK ____ SURVEY ____ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from City of Lovington water well #17. 2/26/03
NO. 2 Raw water - taken from City of Lovington water well #21. 2/26/03
NO. 3
NO. 4
REMARKS: Sample taken by Chuck Emerson, Martin Water Laboratories, Inc.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0017	1.0016		
pH When Sampled				
pH When Received	7.19	7.26		
Bicarbonate as HCO_3	205	205		
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	424	260		
Calcium as Ca	141	88		
Magnesium as Mg	17	10		
Sodium and/or Potassium	65	52		
Sulfate as SO_4	71	72		
Chloride as Cl	230	92		
Iron as Fe	0.15	0.10		
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	730	520		
Temperature °F				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohm-m at 77° F	9.10	14.94		
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				
Nitrate, as N	4.9	4.9		
Total Petroleum Hydrocarbons	<3.0	<3.0		

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By _____
Wavlan C. Martin, M.A.

Team Meeting

DATE: October 27, 2004

SITE NAME: Allsups #19

LOCATION: Lovington, NM

FACILITY #: SID #:_____ STATE LEAD: N

PHASE OF CORRECTIVE ACTION: Minimum Site Assessment

CONSULTANT: Tetra Tech

WHAT IS BEING PRESENTED:
Presented to team October 27, 2004 a decision was made to conduct groundwater sampling from existing monitoring wells up and down gradient of the site. The consultant (Tetra Tech) for Allsups; has not had any success gaining access to these monitoring wells since November 2004. These monitoring wells are associated with an up-gradient site Lovington 66.

Proposal to conduct Preliminary Investigation at the above site. Activities include installation of five soil borings, and complete three borings into monitoring wells. Total depth of the monitoring wells will completed as 2" wells to 75' bgs. The target depth will allow 10' screen into the water table and 5' above. Soil borings will be completed at 50' bgs. Estimated groundwater depth is 60' bgs, flowing southeast.

Groundwater sampling consists of 8260 (VOC's & EDB), 504.1 (EDB), ~~8015B~~ for motor oil and diesel, 8021B (TPH & BTEX). Other sampling consists of dissolved phase metals, and monitored natural attenuation (MNA). Soil sampling analysis will consists of 8260 (VOC's), 504.1 (EDB), 8015B (TPH) , 8021B (BTEX), 6010 (Total Lead)

Recommendation for exclusion of sampling for dissolved phase metals and Lead (6010), and field monitored natural attenuation parameters. Amend groundwater sampling for downgradient monitoring wells W-8 and W-9.

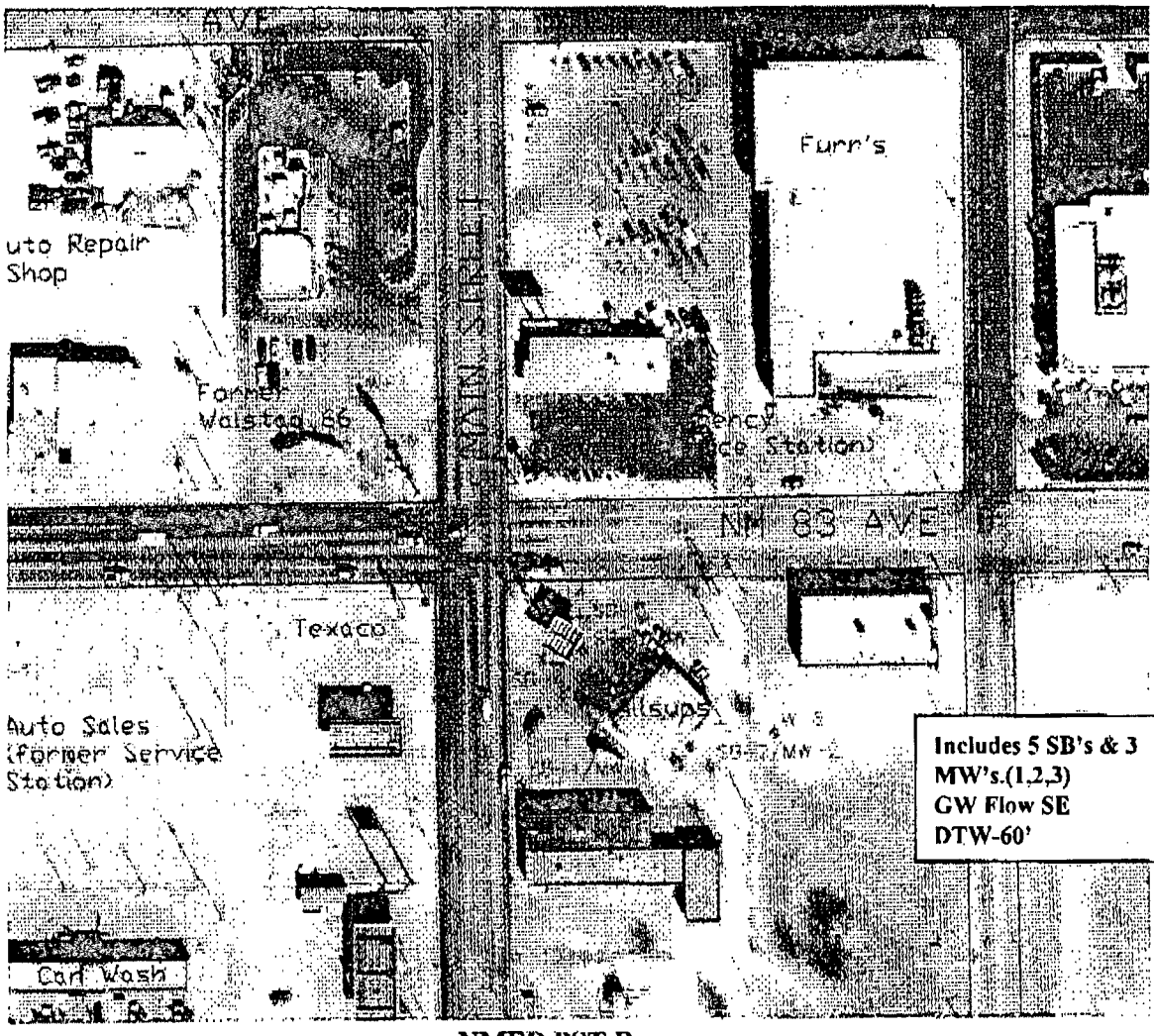
WHAT ARE THE SUGGESTIONS/CONCLUSIONS OF TEAM MEETING:

WILL THIS SITE BE BROUGHT BACK TO TASK FORCE: YES_ __NO X

WHAT IS THE ESTIMATED TARGET DATE:ASAP

PROJECT MANAGER SIGNATURE

TEAM LEADER SIGNATURE



NMED PST Bureau
Site Summary

Note#: ***Presented this site for an MSA to team in October, the decision was to sample monitor wells first "to determine" monitoring well placement in the MSA.***

Monitoring wells with a "W" all belong to the Walstad 66 site located up gradient from the Allsups site. There is a delay gaining access to these wells, the RP is retired and has dementia. Have contacted the attorney handling the estate, for access, currently waiting on a reply (month).

PM: **T.C. Shapard**

Date Completed: October 18, 2004

Site Name/FAC #: N/A

Site Address: 503 South Main, Lovington, NM

Responsible Party: Bell Gas

Investigation and Reclamation Consultant: Tetra Tech

Priority and Ranking: N/A

Receptors and hazards: (Include land use and any wells impacted) N/A

Origin or cause of contamination: (Include type, magnitude, free product, vapor) In July, 1993 during tank removal an UST floated out of the tank hold during a rainstorm and resulting flood. As a result this tank was removed from the tank hold. The next day during fuel recovery, 100 gallons was released through an unplugged bung on top of one of the remaining tanks, and fuel spilled into the tank hold, which still contained rainwater. Sand was placed to absorbed the free product. The sand and contaminated soil were excavated from the tank hold to a depth of 14' bgs, were headspace soil samples were then collected. PID measurements ranged from 400 to 450 ppm. A soil venting system was placed into the middle tank hold by SoilWater Investigations July 22, 1993.

Hydrogeologic setting:

1. **Ground water description: (Include depth, flow direction, gradient, fluctuations, perched zones)** estimated 60'.

2. **Description of vadose zone sediments:** Consists of black loam with high clay content and yellow clay close to the surface, followed by a resistant caliche zone that grades into the Ogallala formation consist of fine clay, silt and sand.

Describe vadose zone contamination:

1. **Estimated volume of vadose zone contamination in cubic yards:** Unknown

Maximum extent and thickness of phase separated product in monitoring wells: Unknown

Describe dissolved phase contamination:

1. **Linear dimensions in feet of dissolved phase contaminant benzene plume in ground water: 1) >10 PPB. 2 >100 PPB. 3) >1000 PPB.** Unknown

2.Compare maximum and current extent of plume and indicate whether it is stable, expanding or contracting:

Does GW/soil contamination extend beyond site property? Unknown

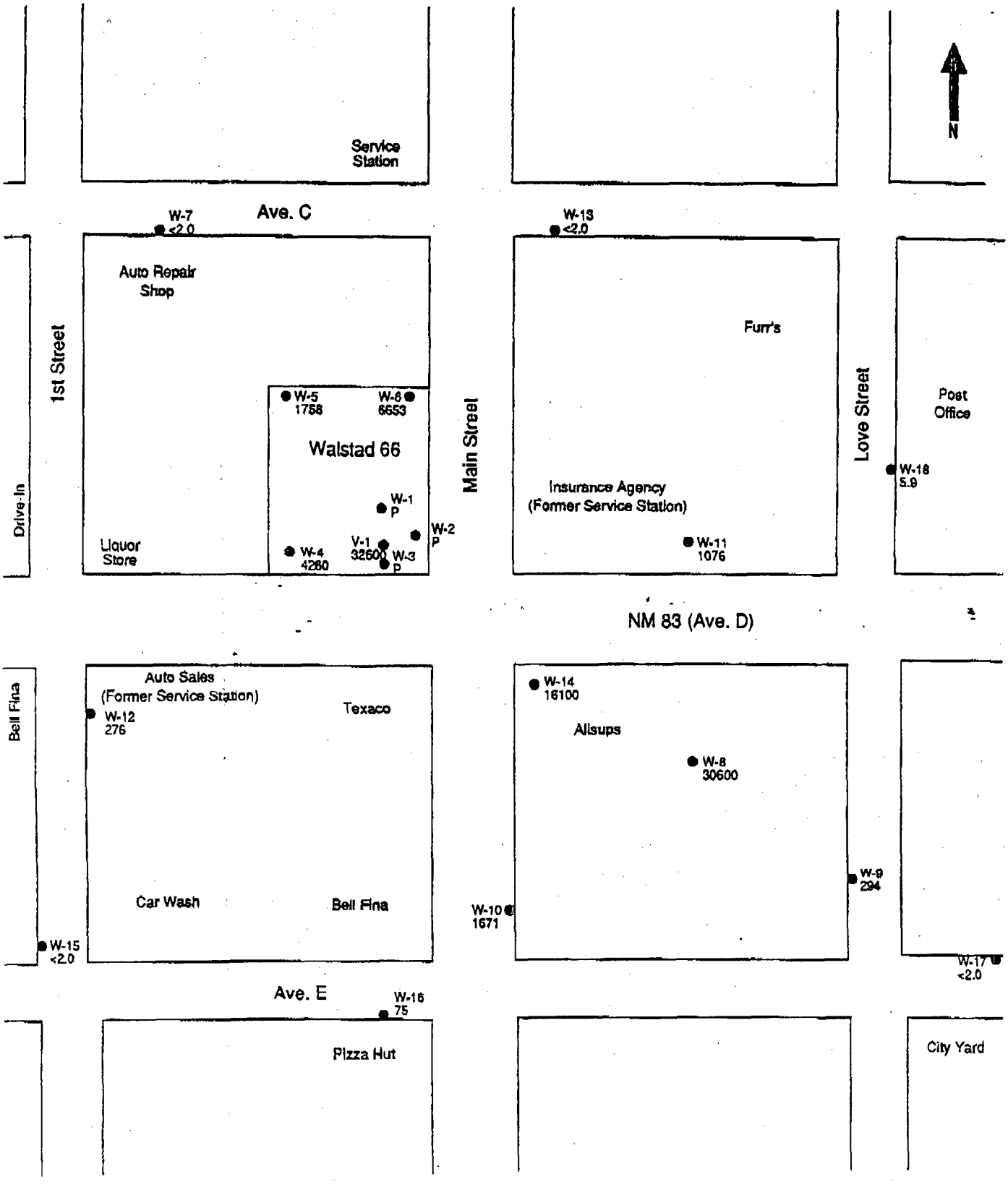
Name nearby sites with similar hydrogeological setting: Lovington 66

Describe reclamation efforts at the site to date: Soil excavation and soil venting, there are no records of remediation activities.

Describe reclamation methods that have proven successful in similar setting:

Describe unusual site conditions or characteristics that could influence decision on reclamation system or operations:

What is being proposed in workplan and project manager's justification for recommending approval: (for workplan approval only)



Scale (feet)

0 50 100 200

W-16 Monitor well
52 Dissolved-phase BTEX in ppb

FIGURE 4

Highest Total BTEX
Walstad Oil: Lovington, NM
Billings & Associates, Inc. June, 1993

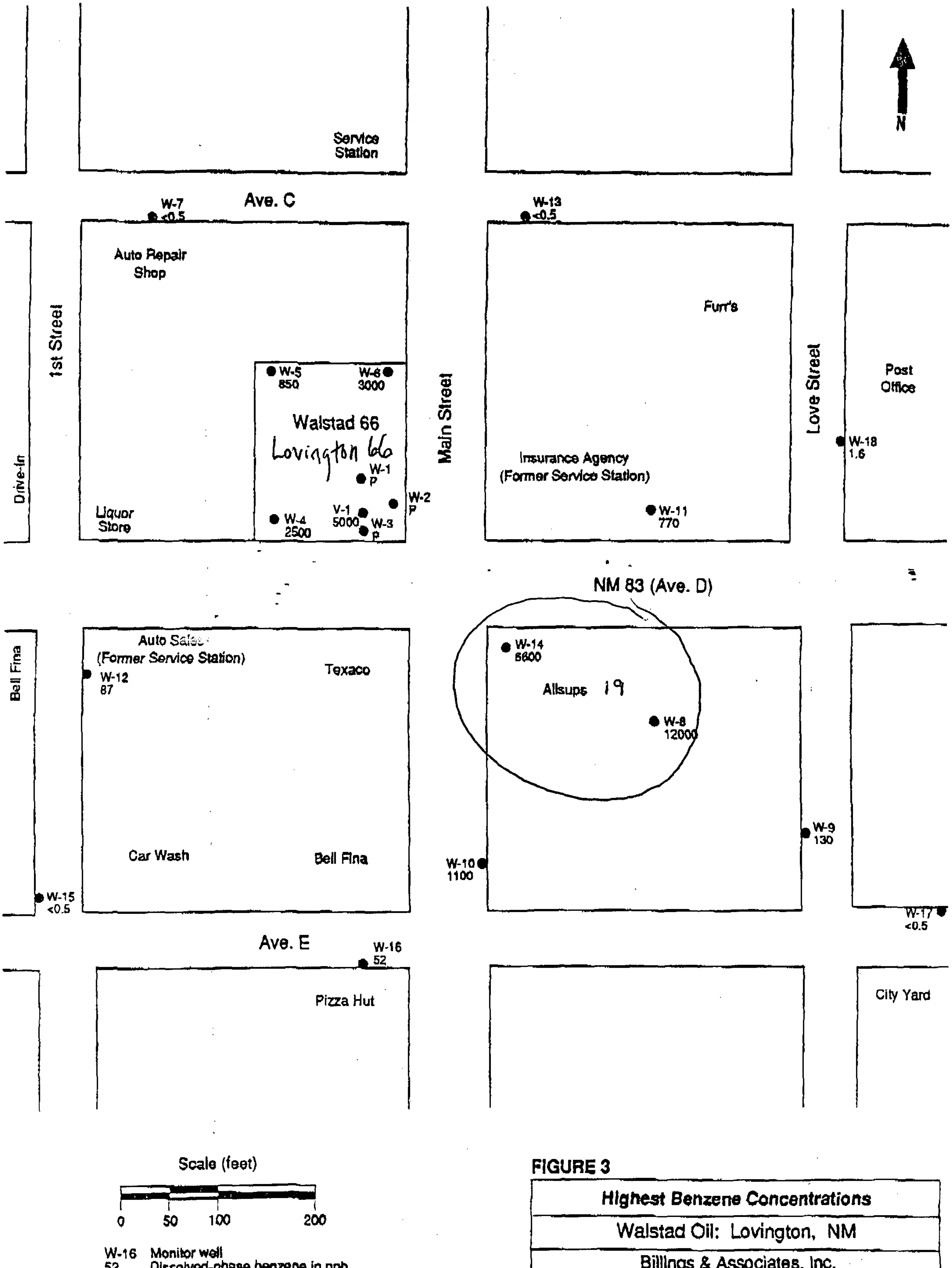


FIGURE 3

Highest Benzene Concentrations
Walstad Oil: Lovington, NM
Billings & Associates, Inc. June, 1993

Organic Water Quality Data

Walstad Oil
Lovington, NM

All values are in parts per billion (ppb)

Well	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
W-4	6/24/92	200	53	21	40	<5.0
	8/28/92	1400	430	95	300	<2.5
	5/25/93	2500	980	310	470	<63
W-5	6/24/92	470	250	41	290	<10
	8/28/92	850	400	58	450	3.3
W-6	6/24/92	1400	1200	48	500	<25
	8/28/92	3000	2700	93	860	<2.5
W-7	8/28/92	<0.5	<0.5	<0.5	<0.5	<2.5
	5/25/93	<0.5	<0.5	<0.5	<0.5	<2.5
W-8	8/28/92	8000	9500	690	5200	<2.5
	5/25/93	12000	8300	1500	8800	<250
W-9	8/28/92	130	8.2	16	140	<2.5
	5/25/93	100	6.3	2.5	170	<5.0
W-10	8/28/92	1100	11	120	440	<2.5
W-11	8/28/92	770	13	13	280	<2.5
W-12	8/29/92	87	6.1	2.6	180	<2.5
W-13	8/29/92	<0.5	<0.5	<0.5	<0.5	<2.5
Allsups #19 W-14	5/2[illegible]/93	6600	4300	1200	4000	<125
W-15	5/26/93	<0.5	<0.5	<0.5	<0.5	<2.5
W-16	5/26/93	52	<0.5	7.9	15	<2.5
W-17	5/26/93	<0.5	<0.5	<0.5	<0.5	<2.5
W-18	5/26/93	1.6	1.8	<0.5	2.0	<2.5
V-1	8/29/92	250	680	240	810	<2.5
	5/25/93	5000	14000	3000	10000	600

Billings & Associates, Inc.

BORING LOG

Project No.: Walstad
Boring No.: W-14
Location: SE corner of Main and NM 83

Installation Date: 5/25/93
Completion Depth: 67 ft. BGS
By: Jim Griswold

Depth (ft)	Profile Sketch	Odor (y/n)	PID Field Data (ppm)	Lab Data TPH (ppm)	Description
		*N			CONCRETE
0.5		*N			TOPSOIL, dark brown
2					
		*Y			CALICHE, soft, off-white mild HCA, 10-15'
30					CALICHE, hard, off-white
		*N			
38					SAND lens, lt. brown, fine grained
39		*N			
					CALICHE, hard, off-white to tan
		*N			
55					
		*N			SAND, medium to fine, lt brown

* Field Monitoring Point

Tetra Tech EM Inc.

6121 Indian School Road, NE, Suite 205 ◆ Albuquerque, NM 87110 ◆ (505) 881-3188 ◆ FAX (505) 881-3283

January 18, 2005

Mr. T.C. Shapard
NMED PSTB
1914 West Second Street
Roswell, New Mexico 88201

Re: Submittal of Revised Work Plan for Preliminary Investigation, Allsup's #109 (formerly Allsup's #19), Lovington, New Mexico

Dear Mr. Shapard,

Tetra Tech EM Inc. (Tetra Tech) is pleased to submit this revised work plan to conduct the above-referenced activities at the Allsup's #109 (formerly Allsup's #19) (Facility ID 6362028), 503 S. Main, Lovington, New Mexico (Figure 1). The workplan dated October 14, 2004 has been revised to include a 14-day report and groundwater sample collection from five additional existing wells. The work will be performed in accordance with the applicable requirements of New Mexico Administrative Code Title 20, Chapter 5, Section 12 titled "Corrective Action for Storage Tank Systems Containing Petroleum Products," and the New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau's (PSTB) "Guidelines for Corrective Action" (GCA) dated March 13, 2000.

BACKGROUND INFORMATION

Allsup's #109 is located at 503 S. Main, Lovington, New Mexico (Figure 1). The site is located southeast of the intersection of East Avenue D and South Main Street. An aerial photo depicting the site circa 2000 is shown as Figure 2. The facility is an active convenience store and gas station. The former Lovington 66, a known source of contamination, is located adjacent to the northeast of the Allsup's #109 site. A former Texaco Station is located adjacent to the east and an insurance agency (a former service station) located adjacent to the north.

In 1993 dissolved phase hydrocarbon concentrations observed in monitor wells associated with the former Walstad Oil Lovington 66 UST site showed an increasing trend downgradient from the Allsup's #109. A tank tightness test on the three tanks at Allsup's #109 indicated a failure in the tank system. As a result the three tanks were excavated for inspection. During the modification to three USTs on July 20, 1993 the middle UST floated out of the tankhold during a rainstorm and resulting flood. As a result this tank was removed from the tank hold. On July 21 during fuel delivery, 100 gallons of fuel was released through an unplugged bung on top of one of the remaining tanks, and fuel spilled into the tankhold, which still contained rainwater. Sand was placed into the tankhold to absorb the free product. The sand and contaminated soil were excavated from the tankhold to a depth of 14 feet below surface grade where two soil samples were then collected. Photo ionization detector (PID) measurements from these samples ranged from 400 ppm to 450 ppm. The excavation was backfilled with clean soil and the two remaining tanks were left in operation. A soil venting system was placed into the middle tankhold by SoilWater Investigation on July 22, 1993.

In 1993, 1994 and 1995 the NMED requested that a limited MSA consisting of one continuously sampled soil boring be completed at the site, in order to prove or disprove the Allsup's #109 tank system contributed to the increase in dissolved phase hydrocarbons concentrations down gradient of the site.

The limited MSA was not done and at this time the NMED has requested a full MSA at the site. This proposal has been prepared in response.

The soil at the site consists of black loam with a high clay content and yellow silty clay close to the surface, followed by a resistant caliche zone that grades into the Ogallala formation consisting of fine clay, silt, and sand. The depth to water at the site is estimated to be at approximately 60 ft bgs.

OBJECTIVE AND SCOPE OF WORK

The objective of this scope of work is to establish whether or not the documented release at the Allsup's #109 contributed to groundwater contamination in the area. Sampling performed during the Preliminary Investigation will be performed in accordance with the current *Guidelines for Corrective Action (GCA), March 13, 2000*. Monitor well completions and soil boring abandonment will be performed in accordance with the USTB's GCA. A trained geologist will supervise fieldwork and prepare all reports. All field personnel will be provided with a site-specific health and safety plan and will attend an on-site health and safety meeting.

The scope of work includes installing five soil borings with three converted to monitoring wells (Figure 2). The contaminants of concern at the site are benzene, toluene, ethyl benzene, and xylenes (BTEX), ethylene dibromide (EDB), ethylene dichloride (EDC), naphthalenes, and metals in groundwater.

The scope and objectives of the Minimum Site Assessment are to:

- Complete the Fourteen-Day reporting requirements
- Determine the vertical and horizontal extent of on-site soil and vadose zone contamination
- Measure soil geotechnical properties to support fate and transport analysis
- Determine if groundwater has been impacted by the Allsup's #109 tank system
- If groundwater is impacted, determine hydraulic gradient with monitor wells and assess on-site extent of groundwater impacts (SB-1/MW-1, SB-2/MW-2 and SB-3/MW-3).
- Complete an investigation report
- Update the receptor surveys and land use profile

TASK SUMMARY

The following tasks have been prepared to accomplish the SOW described above.

Task 1 Notification and Utilities

Notification will be provided to the PSTB and the site owner prior to fieldwork. Verbal notification will be provided at least 48 hours prior to fieldwork. The New Mexico One Call System and local utility companies will be contacted to identify buried utilities.

Task 2 Health and Safety Plan Preparation

Prior to conducting any field work, Tetra Tech EM Inc. will prepare a site-specific Health and Safety Plan (HASP) in accordance with the requirements of 40 CFR 1910.120. The plan will be comprehensive to cover all activities proposed.

Task 3 Fourteen Day Report Requirements

Tetra Tech will satisfy all Fourteen Day reporting requirements, including:

- Topographic map depicting potential receptors
- Information regarding impacted or potentially impacted water supplies
- Site plan depicting underground utilities
- Abatement actions (if any) for soil, groundwater and soil vapors
- Vapor monitoring results
- Fire and safety hazards (if any) and abatement actions

Task 4 Drilling, Soil Sampling, and Monitor Well Construction Activities

Drilling and sampling equipment (split spoons) will be decontaminated prior to use and between samples using a laboratory-grade detergent and fresh tap water rinse. Drilling will be performed using hollow stem auger drilling methods. Borings will be sampled with 2-inch diameter by 2-foot long split spoons or by a 5-foot long continuous CME sampler depending on soil type. Soil borings not converted to monitor wells will be plugged and abandoned with cement-bentonite grout. Soil samples will be collected and analyzed in accordance with the regimen specified in Table 1.

All samples will be field-screened using the heated headspace method described in the current GCA. Disposable nitrile gloves will be worn and replaced between samples. Samples will not be exposed to direct sunlight during headspace testing. Highly contaminated soils or petroleum-saturated soils, if observed, will be described.

Sixteen soil samples will be submitted for quantitative analysis. Four soil samples will be collected from SB-1 through SB-3, in areas of known contamination and two each from SB-4 and SB-5. The samples from SB-1, SB-2 and SB-3 will include:

- A surficial sample at a depth of 0-1 foot below ground surface
- A vadose zone sample with the highest headspace readings
- Capillary fringe
- Total drill depth (75 ft bgs)

The two soil samples from SB-4 and SB-5 will be based on field screening and visual observation. The soil samples will be field-preserved using methanol extraction procedures. The samples will be extruded from clean 10-cc plungers into clean vials with pre-measured methanol. All samples will be stored on ice pending delivery to the laboratory.

One composite soil sample of the drill cuttings will be collected for waste disposal characterization, and analyzed for BTEX, total petroleum hydrocarbons gasoline range and for lead.

Geotechnical Soil Properties

An uncontaminated core sample representative of the soil will be tested for geotechnical parameters. The geotechnical sample will be analyzed for bulk density, volumetric water content, total porosity, fraction organic carbon and hydraulic conductivity by a qualified geotechnical materials testing laboratory.

ASTM methods will be used for geotechnical properties and Walkley-Black method will be used for fraction organic carbon.

Groundwater Monitoring Well Construction

Groundwater monitoring wells will be constructed by extending the borehole to 75 ft bgs. The target depth will allow placement of 10 feet of screen below the water table and 5 feet above to allow for water level fluctuations over time. Wells will be constructed of schedule 40, flush threaded, 2-inch polyvinyl chloride (PVC) pipe. Screens shall consist of machine slotted 0.010-inch PVC. The annulus will be sand packed, followed by a 2-foot hydrated bentonite plug, followed by cement bentonite grout to grade. Surface completions will consist of 12-inch vaults set in 2-foot by 2-foot by 8-inch thick well pads. Following construction, wells will be developed until the water clears and field parameters (pH, specific conductance, and temperature) stabilize to the extent practicable.

Task 5 Groundwater Sampling

Immediately following development, groundwater samples will be collected from each monitor well. In addition, monitor wells W-3, W-8, W-9, W-10, W-14 and W-17 previously installed in association with the Lovington 66 investigation will also be sampled. This well is located on the northwest corner of the Allsup's #109 site. The samples will be decanted from the bailers at a slow, nonturbulent rate into clean, method-specific containers provided by the laboratory with pre-measured preservatives. Each vial will be filled such that no headspace remains.

Groundwater samples from each monitor well will be analyzed in accordance with the regimen specified in Table 1. All groundwater samples will be field tested for dissolved oxygen, oxidation reduction potential, specific conductance, temperature and pH with Geotech P-3 multi-meters. These parameters will be obtained for preliminary indication of natural biodegradation activity and will be included in the report.

Quality Assurance/Quality Control

A laboratory trip blank will accompany the samples and will be analyzed using EPA Method 8260. All sample containers will be labeled with respect to sample ID, time, date, location, and requested analyses. The samples will be delivered to Hall Environmental Analysis Laboratory, Inc. (HEAL) in chilled coolers with chain-of-custody records on HEAL forms. Analytical and QA/QC requirements are provided in Table 2. All samples will be analyzed within method-specific holding times. New disposable bailers will be used to sample each monitor well. Drilling equipment and core barrels will be properly decontaminated between each borehole and each soil sample.

Task 6 Static Water Level Measurements and Free Product Check

Approximately 24 hours after development and sample collection, each monitor well will be opened and static water levels will be measured to the nearest 0.01-foot relative to the top-of-casing measuring point.

Water level measurements will include a determination of the presence or absence of phase-separated hydrocarbons. The probe will be decontaminated prior to use and between wells using a laboratory-grade detergent and deionized water rinse.

Task 7 Well Surveying

All monitor wells will be surveyed by a New Mexico Licensed Surveyor. The survey will be to New Mexico State Plane Coordinates and North American Datum of 1927 or 1983. Wells will be located to within 0.01 foot horizontal and 0.01 foot vertical.

Task 8 Receptor Survey

A receptor survey will be performed within a 1,000 foot radius of the site. In addition, a plat map of the area will be obtained and current land use within a 1,000 foot radius will be documented. This information will in turn be used to evaluate likely future land use. The location of all private water within a 1000 foot radius and all public water supply wells within a 1 mile radius will be researched and reported. The receptor survey will include (1) evaluation of human receptors (residential children and adults, commercial adults, and construction worker), (2) surface water bodies within a 500 foot radius of the site, (3) locations of underground utilities as potential conduits for migration, and (4) a utility vapor check.

Task 9 Preliminary Investigation Report Preparation

A Preliminary Investigation Report will be prepared using standard report forms presented in the Guidelines for Corrective Action. The report will document any highly contaminated soils or phase-separated hydrocarbon. A discussion of the vertical and horizontal extent of soil and groundwater contamination and any highly contaminated soils/free product will be presented.

The report will include the following figures and attachments: topographic map, site map with UST system and utility locations, soil contamination maps, plume maps, potentiometric surface maps, boring logs, cross-section, calculations, field and laboratory data tables, and laboratory reports.

Project Schedule and Cost Proposal

Tetra Tech will accept direct payment from the Corrective Action Fund for reimbursable costs for the proposed scope of work according to the fixed price proposal and schedule presented in Table 3.

Please feel free to contact me at 505-881-3188 if you need additional information or have any questions on the proposed work plan and cost.

Sincerely,

Jay T. Snyder, Certificd Scientist # 91
Project Manager

Attachments

Enclosures: Jeff Scarbrough, Allsup Petroleum Inc.
Dan Cravens, Rocky Mountain Geotech

TABLE 3
COST AND PAYMENT DISBURSEMENT PROPOSAL
ALLSUPS #109, LOVINGTON, NEW MEXICO

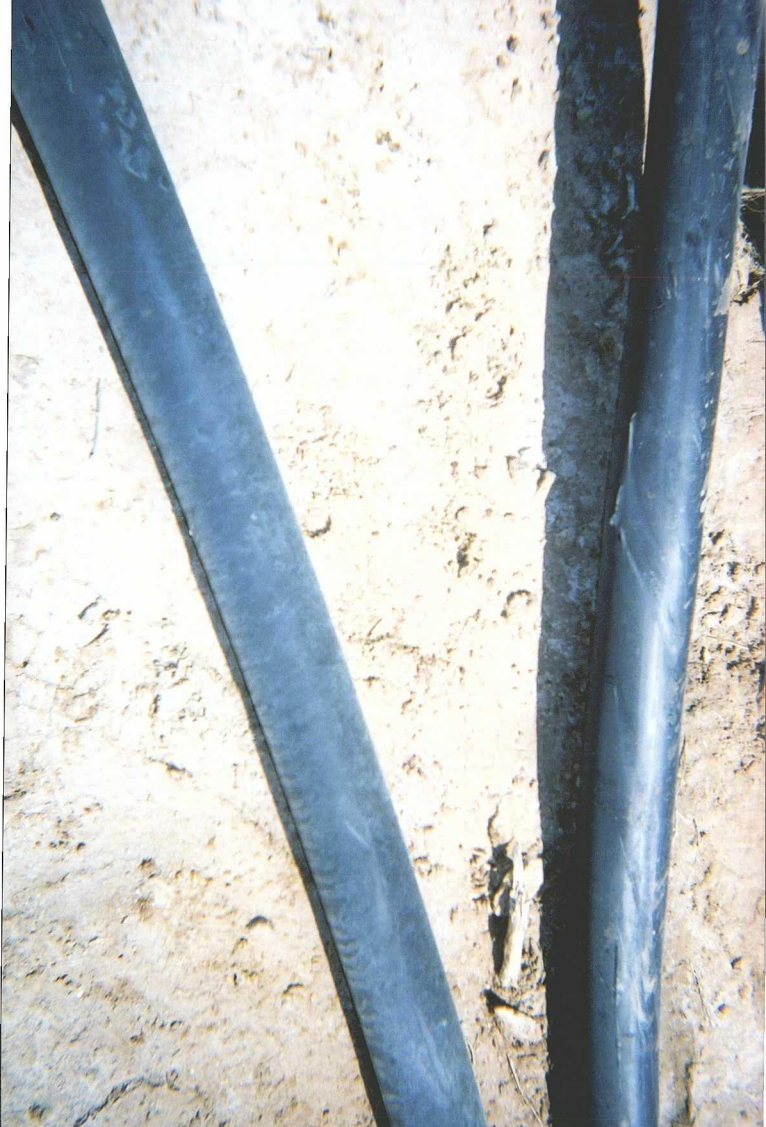
Phase	Description	Units	Unit cost w/labor	Number of Units	Deliverable/Payment Trigger	Due Date[1]	Extended Cost
1	File Review, Work Plan and HASP	LS	$ 2,000	1	Work Plan Approved	3/15/2005	$ 2,000
1	Preliminary Investigaton Report	LS	$ 35,000	1	PI Report	9/15/2005	$ 35,000
	Additional Soil Boring (75 ft)	LS	$ 1,950	NA			
	Additional Monitor Well	LS	$ 2,990	NA			
	Add Site Geologist	Day	$ 700	NA			
	Add VOC Sample	Each	$ 140	NA			
	Add EDB Sample	Each	$ 40	NA			
	Add Full Range TPH Sample	Each	$ 70	NA			
						Project Subtotal	**$ 37,000.00**
						NMGRT @ 6.75%	$ 2,497.50
						Project Total	**$ 39,497.50**

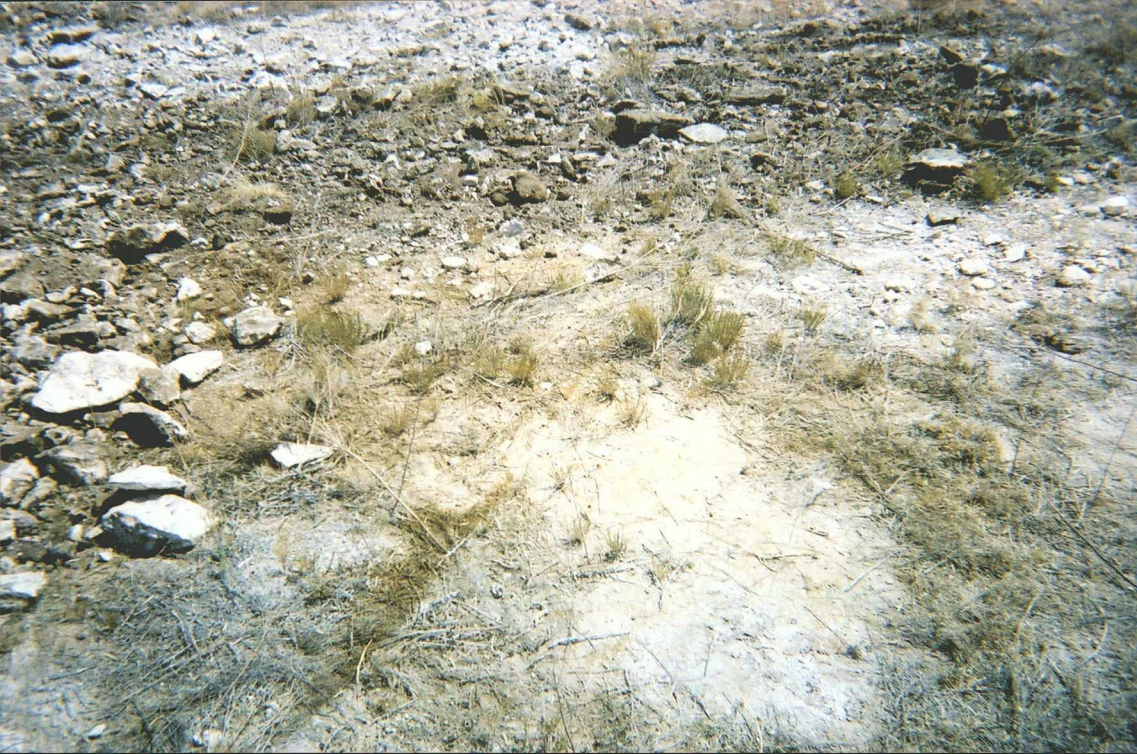
[1] Assumes work plan approval date of February 15, 2005

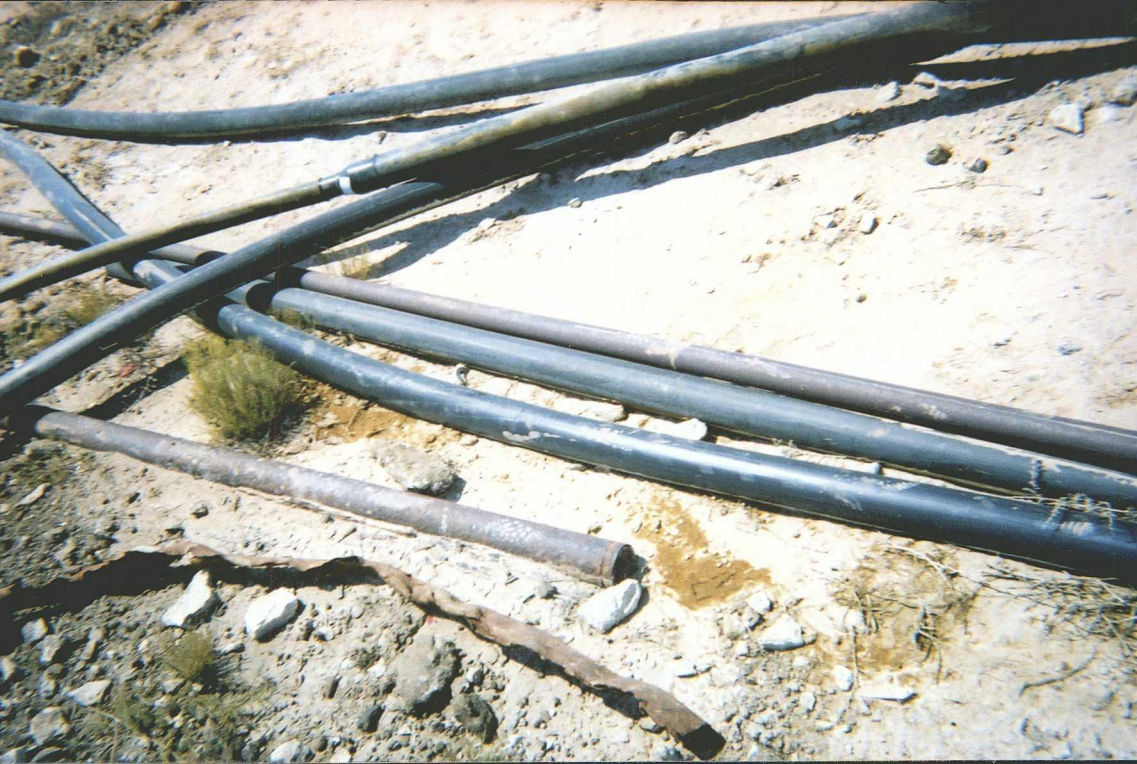
VonGonten, Glenn, EMNRD

From: Price, Wayne, EMNRD
Sent: Friday, August 04, 2006 9:32 AM
To: ballen@sesi-nm.com
Cc: VonGonten, Glenn, EMNRD; hsncpbm@leaco.net
Subject: Lovington Well Field
Contacts: Bob Allen

Dear Bob, Please forward your sampling results from the Saga Site to OCD and the City of Lovington ASAP.







6/21/06