

**APPENDIX N**  
**PRELIMINARY GEOTECHNICAL INVESTIGATION RESULTS**

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Shell Wind Energy, Inc  
Hermosa Wind Project

B&V Project 163577  
B&V File 41.0403  
September 8, 2009

Shell Wind Energy Inc  
Room 566B  
910 Louisiana, Houston TX 77002

Subject: Preliminary Geotechnical Investigation Results

Attention: Mr. Nicholas W. Burkhead  
Sr. Project Engineer

The purpose of this letter is to present the results of the preliminary geotechnical investigation for the Hermosa Wind project. This investigation was performed to provide limited geotechnical characterization of the Phase I portion of the project site.

## **INTRODUCTION**

Field exploration activities were performed on July 21 and 22 to obtain preliminary information on the subsurface conditions at this site. Selected samples obtained during the subsurface investigation were tested in the laboratory of our subcontractor, Professional Services Industries, Inc (PSI), to provide data on the classification and engineering characteristics of the on-site soils. The boring logs as prepared by PSI as well as the laboratory tests results are included as attachments to this memorandum. Additional description of the boring locations is provided in the Cultural Resource Inventory prepared by Cultural Resource Analysts Inc. (CRA Project No.: C09B002, dated August 20, 2009, not provided in this letter). The results of this preliminary exploration are presented herein.

## **SITE CONDITIONS**

The site is located in Southern Wyoming near the small town of Tie Siding, approximately 5 miles north of the Colorado/Wyoming border. No preliminary records were reviewed or previous investigation data were reviewed as part of our study, however it appeared that structures constructed in the vicinity of the planned project – mainly farm and ranch related structures – were constructed on shallow foundations and are lightly loaded structures.

## **GEOTECHNICAL INVESTIGATION**

The field exploration program was performed to obtain information on subsurface conditions. Six (6) test borings were drilled, logged, and sampled as part of the investigation. Subsurface

Shell Wind Energy, Inc  
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B&V Project 163577  
September 8, 2009

explorations were directed by PSI with drilling and sampling performed by Dakota Drilling, both of Denver. A B&V representative was present to monitor the investigation. Selected samples obtained during the subsurface investigation were tested in PSI's laboratory to provide data on the geotechnical classification and engineering characteristics of the on-site soils. Utilities were cleared by PSI before drilling commenced.

### *Boring Drilling and Sampling*

The subsurface conditions were investigated by drilling six borings (B1 through B6) on July 21 and 22, 2009. The approximate locations of the test borings are shown on attached Figure 1. Test borings are listed in Table 1.

Boring Number	Location	Elevation (feet MSL) <sup>(1)</sup>	Depth (feet)	Notes
B1	N41.01720 W105.48875	7880	30.0	Possible bedrock @ 8'
B2	N41.03159 W105.51687	8002	7.5	Bedrock @ 2.5'
B3	N41.04748 W105.52630	7850	30.0	No bedrock encountered to 30'
B4	N41.06596 W105.55490	7750	24.0	Bedrock @ 18'
B5	N41.06471 W105.57387	7888	24.0	Bedrock @ 12'
B6	N41.07768 W105.56418	7700	19.0	Bedrock @ 5.5'

Notes : <sup>1)</sup> Elevations were provided by CRA in the Cultural Resources Inventory Report

Drilling was performed by Dakota Drilling of Denver, Colorado, under subcontract to PSI. A PSI and BV geotechnical engineer supervised the drilling, collected soil samples, logged borings, and supervised installation of monitoring instrumentation. A cultural resources scientist from Cultural Resources Analysts, Inc., of Ft. Collins, Colorado, monitored cultural and archeological aspects during all field activities. The test borings were drilled using a rubber-tired, truck-mounted Central Mine Equipment Model 55 (CME-55) drill rig. The test borings were advanced using 4-inch outside diameter solid-stem augers.

The test borings were continuously sampled in the upper 10 feet and at 5-foot intervals thereafter. The borings were sampled using a 1-3/8-inch inside diameter split spoon sampler in all holes with the exception of B2. Due to damage to the split spoon sampler, a California tube sampler (3.0" inside diameter) was used on test boring B2. Standard Penetration Tests (SPTs)

Shell Wind Energy, Inc  
Hermosa Wind Project

B&V Project 163577  
September 8, 2009

were performed which involved driving the samplers using a 140 pound hammer falling 30 inches and recording the number of blows required for each 6 inches of penetration. The SPT resistance (N-value) of the soil was calculated as the number of blows required for the bottom 12 inches of penetration. If high penetration resistance prevented driving the total 1.5 foot length of the sampler, the penetration resistance for the partial penetration (limited to 50 blows for less than 6 inches of penetration) was recorded. The N-values are shown on the attached boring logs. These N-values provide a measure of the relative density of granular soils and relative consistency of cohesive soils. It should be noted that for the SPT performed with the California sampler, a general correction factor of approximately 0.6 should be applied to the recorded N-value to correct for the larger sampler diameter.

## **SUBSURFACE CONDITIONS**

### *Field Observations*

As observed from the test borings performed at the site, the general subsurface materials consist of clayey and silty sand (SC and SM materials) overlying bedrock. The bedrock, when encountered, consisted of sandstone or siltstone. With the exception of boring B2, the bedrock was generally weathered enough to allow the augers to penetrate to at least 10 feet deep. Bedrock was noted in all holes except B1 and B3. It should be noted that based on the high N-values (greater than 50) in boring B1, bedrock may have been as shallow as 8 feet. In the holes where bedrock was encountered, the thickness of the overburden soils ranged from 2.5 feet to 18 feet. In boring where bedrock was not encountered the observed soils remained relatively consistent, classifying as either clayey sand or silty sand (SC and SM). Standard Penetration Test (SPT) ranged from the mid teens to the mid 30's in the upper zones. In the lower zones it was common for the sampler to be unable to be driven the full 12 inches. The upper zones of soil is defined as the upper 10 to 15 feet and the lower zones of soil is defined as anything deeper than 15 feet.

Groundwater was encountered in only one test boring, B3, at 28 feet below the ground surface. The hole was immediately backfilled after drilling so long-term groundwater conditions were not monitored.

### *Laboratory Testing*

Index testing of the soils encountered in the borings indicates that the soils are fairly consistent classifying as either clayey sand or silty sand (SC and SM). Fines contents were generally less than 20 percent and liquid limits indicating low plasticity soils. One laboratory compaction test was performed indicating a reasonable compaction curve and also suggesting that soil tested was rather dry compared to the optimum moisture content for compaction. The results of the one thermal resistivity test of one sample are presented in Attachment B.

Shell Wind Energy, Inc  
Hermosa Wind Project

B&V Project 163577  
September 8, 2009

## **GENERAL CONCLUSIONS**

Based on the conditions encountered, it is B&V's option that the subsurface conditions at the Hermosa site are suitable to support the planned wind turbine development. Typical gravity type wind turbine foundations with dimensions of 50 to 60 feet in diameter with depths of approximately 7 to 8 feet are reasonable given the investigation findings. Based on the boring locations, depth to rock appears sufficient to allow relatively easy excavation to the wind turbine foundation depths. For substation and other structures, typical shallow footings below the frost depth appear to be acceptable. Our experience indicates the bearing capacity of this material will support design loads of between 2,000 and 4,00 psf for shallow foundation systems. Based on the laboratory testing (generally low fines and low plasticity), the surface soils do not appear to present swelling soil issues. Based on the borings, the drillers were able to auger to at least 7.5 feet deep so trenching to install the collection system should not present too much difficulty provided that the depth to hard rock does not become too shallow. The surface soils observed are acceptable for road construction based on the generally medium dense, sandy soils.

It is important to note that these conclusions are generated from our experience on past projects involving similar, but not identical, subsurface conditions. As such, an expanded geotechnical investigation is required to investigate additional locations at this site and perform more extensive laboratory testing and engineering analyses from which more definitive foundation and geotechnical engineering recommendations can be generated.

One item of interest for the investigation is that the bedrock encountered was mainly sedimentary bedrock (siltstone and sandstone). Based on the initial geologic maps that were compiled for the site, the borings in the southern portion of the site should have encountered granitic bedrock. The soil/bedrock conditions for the granitic bedrock areas will likely be significantly different from the conditions where the sedimentary rocks are exposed. There is still some concern that in the areas where granitic bedrock is found, there may be relatively shallow rock that could present issues with constructing a gravity foundation (mainly a concern of excavation).

Additional investigations should attempt to provide wider coverage of the site. Based on the field observations, access to areas not on roads should not be an issue during good weather conditions. Additional investigations should also locate the borings at the proposed turbine locations. With the generally shallow bedrock conditions, dynamic stiffness of the subgrades for the turbine foundations should not be a major concern. However, including some geophysical testing would be beneficial to confirm that dynamic stiffness criteria are not a concern.

## **LIMITATIONS**

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Hermosa Wind Project

B&V Project 163577  
September 8, 2009

This report was prepared solely for the benefit of Shell WindEnergy Inc. ("Client") by Black & Veatch Corporation ("Black & Veatch") under the terms and conditions of the written agreement between Client and Black & Veatch ("the Agreement") and is based on information not within the control of Client or Black & Veatch. Neither Client nor Black & Veatch has made an analysis, verified data, or rendered an independent judgment of the validity of the information provided by others. WHILE IT IS BELIEVED THAT THE INFORMATION, DATA, AND OPINIONS CONTAINED HEREIN WILL BE RELIABLE UNDER THE CONDITIONS AND SUBJECT TO THE LIMITATIONS SET FORTH IN THIS REPORT, CLIENT AND BLACK & VEATCH DO NOT GUARANTEE THE ACCURACY THEREOF. EXCEPT AS EXPRESSLY ALLOWED BY THE AGREEMENT, THIS REPORT MAY NOT BE USED BY ANYONE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF BLACK & VEATCH, AND SUCH USE SHALL CONSTITUTE AGREEMENT BY THE USER THAT ITS RIGHTS, IF ANY, ARISING FROM THIS REPORT SHALL BE SUBJECT TO THE TERMS OF THE BLACK & VEATCH AUTHORIZATION, AND IN NO EVENT SHALL USER'S RIGHTS, IF ANY, EXCEED THOSE OF CLIENT UNDER THE AGREEMENT. USE OF THIS REPORT BY UNAUTHORIZED PARTIES SHALL CONSTITUTE AGREEMENT OF SUCH PARTIES TO DEFEND AND INDEMNIFY CLIENT AND BLACK & VEATCH FROM CLAIMS AND LIABILITY ARISING FROM SUCH UNAUTHORIZED USE.

Thank you for the opportunity to work with you on this project and please call if you have any further questions.

Sincerely,

Black & Veatch



Del Shannon, PE  
Project Engineer

James Liljegren, PE\*, RG\*  
Project Engineer  
\* Registered in MO

Ryan Jacobson  
Project Manager

Attachments:

A- Boring Location Maps

B -PSI Boring Logs and Laboratory Results

Shell Wind Energy, Inc  
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B&V Project 163577  
September 8, 2009

(LATER)

Attachment A – Boring Location Map

Black & Veatch Corporation  
11401 Lamar Avenue  
Overland Park, Kansas 66211

September 2, 2009

Attention: Mr. James Liljegren, P.E., R.G.

**Subject: Report of Subsurface Investigation  
Hermosa Wind Project, Wyoming  
PSI Project No.: 532-95028**

Dear Mr. Liljegren:

Professional Service Industries, Inc. (PSI) is pleased to present our Report of Subsurface Investigation for the referenced project. PSI performed a field investigation for the subject project on July 21 and 22, 2009. The field investigation was performed using a CME-55 drill rig to advance 4 inch, solid stem, continuous flight augers. The site was generally vacant ranchland. This report includes our boring logs and laboratory test results.

We appreciate the opportunity to perform the geotechnical engineering services for this project and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,

**PROFESSIONAL SERVICE INDUSTRIES, INC.**



Matthew Satterfield, E.I.  
Staff Engineer



Kyle R. Duitsman, P.E.  
Department Manager



PSI  
 451 E 124th ave.  
 Thornton 80241-2420  
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 Fax: (303)423-5625

# LOG OF BORING B1

Sheet 1 of 1

PSI Job No.: 532-95028  
 Project: Hermosa Wind Project  
 Location: Near Tie Siding, Wyoming

Drilling Method: Solid Stem Auger  
 Sampling Method: Split Spoon Sampler  
 Hammer Type: CME Manual  
 Boring Location:

WATER LEVELS	
▽ While Drilling	NE
▽ Upon Completion	NE
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
											N in blows/ft @	Strength, tsf	
0				B1/1	18		CLAYEY SAND (SC), fine to coarse grained, well graded, loose to medium dense, slightly moist, brown to red brown, some cobbles. 18.4% passing No. 200 sieve.	SC	10-20-18 N=38		Composite Sample (0'-5') A-2-6 (0) SC LL = 25 PL = 11		
				B1/1.5	18			8-7-10 N=17					
				B1/3	18			11-9-10 N=19					
5				B1/4.5	18		SILTY SAND (SM), fine to coarse grained, well graded, loose to medium dense, slightly moist, brown to red brown, some cobbles. 18.6% passing No. 200 sieve.	SM	6-6-7 N=13		Non Plastic		
				B1/6	18				8-17-32 N=49				
				B1/7.5	6				50/6"			>>⊙	
				B1/9	6				18.7% passing No. 200 sieve.	50/6"			>>⊙
				B1/14	4				12.1% passing No. 200 sieve.	50/4"			>>⊙
				B1/19	4		15.3% passing No. 200 sieve.	50/4"		>>⊙	Non Plastic		
				B1/24	0			50/0"		>>⊙			
				B1/28.5	0			50/0"		>>⊙			
							Boring terminated at 30 feet						

Completion Depth: 30.0 ft	Sample Types:	Latitude: N41.01720
Date Boring Started: 7/21/09	Auger Cutting	Longitude: W105.48875
Date Boring Completed: 7/21/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	Figure Number:
	Hand Auger	
	Mod. California	

The stratification lines represent approximate boundaries. The transition may be gradual.



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# LOG OF BORING B2

Sheet 1 of 1

PSI Job No.: 532-95028	Drilling Method: Solid Stem Auger	<b>WATER LEVELS</b> ▽ White Drilling NE ▽ Upon Completion NE ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon Sampler	
Location: Near Tie Siding, Wyoming	Hammer Type: CME Manual	
	Boring Location:	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
											N in blows/ft	Strength, tsf	
0				B2/0	18		CLAYEY SILTY SAND (SC-SM), fine grained, some cobbles, slightly moist, red brown, dense. 16.0% passing No. 200 sieve.	SC-SM	12-21-25 N=46	18	23	Composite Sample (0'-5') A-1-b (0) SC-SM LL = 23 PL = 5	
				B2/1.5	11				28-50/5" N=78			>> Non Plastic	
				B2/3	0		SANDSTONE BEDROCK, visible outcroppings nearby. 10.8% passing No. 200 sieve.		50/0"			>>	
				B2/4.5	0				50/0"			>>	
				B2/6	4		19.7% passing No. 200 sieve.		50/4"			>>	
				B2/7.5	0		Boring terminated at 7.5 feet		50/0"			>>	

Completion Depth: 7.5 ft	Sample Types:	Latitude: N41.03159
Date Boring Started: 7/21/09	<input checked="" type="checkbox"/> Auger Cutting <input checked="" type="checkbox"/> Split-Spoon <input type="checkbox"/> Rock Core	Longitude: W105.51687
Date Boring Completed: 7/21/09	<input type="checkbox"/> Shelby Tube <input type="checkbox"/> Hand Auger <input type="checkbox"/> Mod. California	Drill Rig: CME-55
Logged By: MS		Remarks:
Drilling Contractor: PSI, Inc.		Figure Number:

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# LOG OF BORING B3

PSI Job No.: 532-95028  
 Project: Hermosa Wind Project  
 Location: Near Tie Siding, Wyoming

Drilling Method: Solid Stem Auger  
 Sampling Method: Split Spoon Sampler  
 Hammer Type: CME Manual  
 Boring Location:

WATER LEVELS	
▽ White Drilling	28 ft
▽ Upon Completion	28 ft
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	STANDARD PENETRATION TEST DATA		Additional Remarks
								N in blows/ft @	Moisture, %	
0			B3/0	18	CLAYEY SAND (SC), some sandy clay, fine grained, medium dense to dense, slightly moist, red brown, some cobbles. 34.1% passing No. 200 sieve.	SC	9-14-17		Composite Sample (0'-5') A-6 (5) SC LL = 27 PL = 12	
		B3/1.5	18	14-21-21						
		B3/3	18	21-24-28						
5			B3/4.5	18	SILTY SAND (SM) 40.8% passing No. 200 sieve.	SM	17-18-17		Non Plastic	
			B4/6	18	54.4% passing No. 200 sieve.	SC	17-18-17		LL = 36 PL = 14 LL = 42 PL = 15	
			B4/7.5	18	CLAYEY SAND (SC)		13-14-12			
10			B4/9	18	SILTY SAND (SM), with 6 inch clay seams, fine grained, some cobbles, medium dense, slightly moist, red brown. 39.3% passing No. 200 sieve.	SM	10-10-12		Non Plastic	
15			B4/14	18	Increasing sand content. 11.9% passing No. 200 sieve.		11-11-11		Non Plastic	
20			B4/19	18			8-8-8			
25			B4/24	18	19.9% passing No. 200 sieve.		8-8-7		Non Plastic	
30			B4/28.5	18			9-12-16			
Boring terminated at 30 feet										

Completion Depth: 30.0 ft	Sample Types:	Latitude: N41.04748
Date Boring Started: 7/21/09	Auger Cutting	Longitude: W105.52630
Date Boring Completed: 7/21/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	Figure Number:
	Hand Auger	
	Mod. California	

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# LOG OF BORING B4

Sheet 1 of 1

PSI Job No.: 532-95028  
 Project: Hermosa Wind Project  
 Location: Near Tie Siding, Wyoming

Drilling Method: Solid Stem Auger  
 Sampling Method: Split Spoon Sampler  
 Hammer Type: CME Manual  
 Boring Location:

WATER LEVELS	
▽ While Drilling	NE
▽ Upon Completion	NE
▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
											N in blows/ft	Strength, tsf	
0				B4/0	18		CLAYEY SAND (SC), sandy clay in parts, fine grained, medium dense, dry to slightly moist, light to red brown, trace calcareous. 54% passing No. 200 sieve.	SC	9-11-9 N=20			Composite Sample (0'-5') A-6 (2) SC LL = 34 PL = 21	
				B4/1.5	18			10-11-9 N=20			LL = 30 PL = 13		
				B4/3	18	59.1% passing No. 200 sieve.		11-16-18 N=34			LL = 30 PL = 12		
				B4/4.5	18	43.0% passing No. 200 sieve.		16-18-18 N=36			LL = 22 PL = 14		
				B4/6	18	58.9% passing No. 200 sieve.		9-10-8 N=18			LL = 21 PL = 13		
				B4/7.5	18	48.1% passing No. 200 sieve.		9-15-16 N=31			LL = 26 PL = 15		
				B4/9	18	42.8% passing No. 200 sieve.		14-16-14 N=30					
				B4/14	18	17.4% passing No. 200 sieve.		14-14-21 N=35	SM				Non Plastic
				B4/19	0	66.0% passing No. 200 sieve.			50/0"		>>⊙ Non Plastic		
				B4/24	0	Boring terminated at 24 feet			50/0"		>>⊙ Non Plastic		

Completion Depth: 24.0 ft	Sample Types:	Latitude: N41.06596
Date Boring Started: 7/22/09	Auger Cutting	Longitude: W105.55490
Date Boring Completed: 7/22/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	Figure Number:
	Hand Auger	
	Mod. California	

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# LOG OF BORING B5

Sheet 1 of 1

PSI Job No.: 532-95028  
 Project: Hermosa Wind Project  
 Location: Near Tie Siding, Wyoming

Drilling Method: Solid Stem Auger  
 Sampling Method: Split Spoon Sampler  
 Hammer Type: CME Manual  
 Boring Location:

WATER LEVELS	
▽ While Drilling	NE
▽ Upon Completion	NE
▽ Delay	N/A

Elevation (feet)	Depth (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
											N in blows/ft	Strength, tsf	
0				B5/0	18		SILTY SAND (SM), clayey sand in parts, with cobbles, fine to coarse grained, loose to medium dense, dry to slightly moist, red brown.	SM	4-4-4			Composite Sample (0'-5') A-1-b (0) SM	
				B5/1.5	18				3-3-2				
				B5/3	18				4-7-11				
				B5/4.5	18		22.3% passing No. 200 sieve.		12-12-12			Non Plastic	
				B5/6	18		27.7% passing No. 200 sieve.		9-10-10			Non Plastic	
				B5/7.5	18		CLAYEY SAND (SC), with cobbles, fine to coarse grained, medium dense, slightly moist, red brown.		10-9-12			LL = 38 PL = 24	
				B5/9	18				9-10-10				LL = 38 PL = 25
							SILTSTONE BEDROCK						
				B5/14	6				50/6"			>>⊙	
				B5/19	3				50/3"			>>⊙	
				B5/24	0		Boring terminated at 24 feet		50/0"			>>⊙	

Completion Depth: 24.0 ft	Sample Types:	Latitude: N41.06471
Date Boring Started: 7/22/09	Auger Cutting	Longitude: W105.57387
Date Boring Completed: 7/22/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	Figure Number:
	Hand Auger	
	Mod. California	

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# LOG OF BORING B6

Sheet 1 of 1

PSI Job No.: 532-95028 Project: Hermosa Wind Project Location: Near Tie Siding, Wyoming	Drilling Method: Solid Stem Auger Sampling Method: Split Spoon Sampler Hammer Type: CME Manual Boring Location:	<b>WATER LEVELS</b>	
		▽ While Drilling	NE
		▽ Upon Completion	NE
		▽ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch	Moisture, %	STANDARD PENETRATION TEST DATA		Additional Remarks
										N in blows/ft	Moisture	
										STRENGTH, tsf		
										▲ Qu	* Qp	
0				B6/0	18	SILTY SAND (SM), ML in parts, fine grained, loose to dense, dry to slightly moist, red brown. 65.5% passing No. 200 sieve.	SM	4-5-5 N=10				Composite Sample (0'-5') A-4 (0) SM LL = 27 PL = 20
				B6/1.5	18			5-6-4 N=10				
				B6/3	18	26.2% passing No. 200 sieve.		4-5-9 N=14				Non Plastic
				B6/4.5	6			29.4% passing No. 200 sieve.	50/6"			
				B6/6	6	SANDSTONE BEDROCK with siltstone and claystone in parts. 37.7% passing No. 200 sieve.		50/6"				>> Non Plastic
				B6/7.5	6			31.6% passing No. 200 sieve.	50/6"			
				B6/9	4	36.7% passing No. 200 sieve.		50/4"				>> Non Plastic
				B6/14	6	34.3% passing No. 200 sieve.		50/6"				>> Non Plastic
				B6/19	0	Boring terminated at 19 feet		50/0"				>> Non Plastic

Completion Depth: 19.0 ft	Sample Types:	Latitude: N41.07768
Date Boring Started: 7/22/09	Auger Cutting	Longitude: W105.56418
Date Boring Completed: 7/22/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	Figure Number:
	Hand Auger	
	Mod. California	

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## KEY TO SYMBOLS



USCS Clayey Sand



USCS Silty Sand



USCS Clayey Sand



Sandstone



Siltstone

SSA = Solid Stem Auger

HSA = Hollow Stem Auger

CFA = Continuous Flight Auger

SPT = Standard Penetration Test

DCP = Dynamic Cone Penetrometer

SS = Split-spoon Sampler

ST = Shelby Tube Sampler

DD = Dry Density (pcf)

LL = Liquid Limit

PL = Plastic Limit

Qu = Unconfined Compressive Strength

Qp = Pocket Penetrometer

PID = Photo Ionic Detector (ppm)

WSS = Water Soluble Sulfate Concentration (%)

-200 = Percentage passing the No. 200 sieve

S(200) = Swell potential when tested using a  
200 psf surcharge (%)S(500) = Swell potential when tested using a  
500 psf surcharge (%)S(1000) = Swell potential when tested using a  
1000 psf surcharge (%)

The borings were advanced using a CME-55 truck mounted drill rig equipped with 4-inch diameter solid-stem continuous-flight auger. Soil samples were recovered at selected depths during drilling with the truck-mounted drill rig using a Standard Split Spoon sampler or a modified "California" sampler driven by a 140-lb. weight free falling 30 inches. The stratification lines represent the approximate boundary between soil types and the transition may be gradual. The location of the borings were approximately determined by GPS coordinates or measuring from known structures or topographic features. The location of the borings should be considered accurate only to the degree implied by the method used. Water level readings have been made in the borings at times and under conditions stated in the report. However, it must be noted that fluctuations in the level of the groundwater may occur due to variations in precipitation, temperature and other factors such as landscape irrigation and leakage from underground utilities.



PSI  
451 E 124th ave.  
Thornton 80241-2420  
Telephone: (303)424-5578  
Fax: (303)423-5625

PSI Job No.: 532-95028  
Project: Hermosa Wind Project  
Location: Near Tie Siding, Wyoming

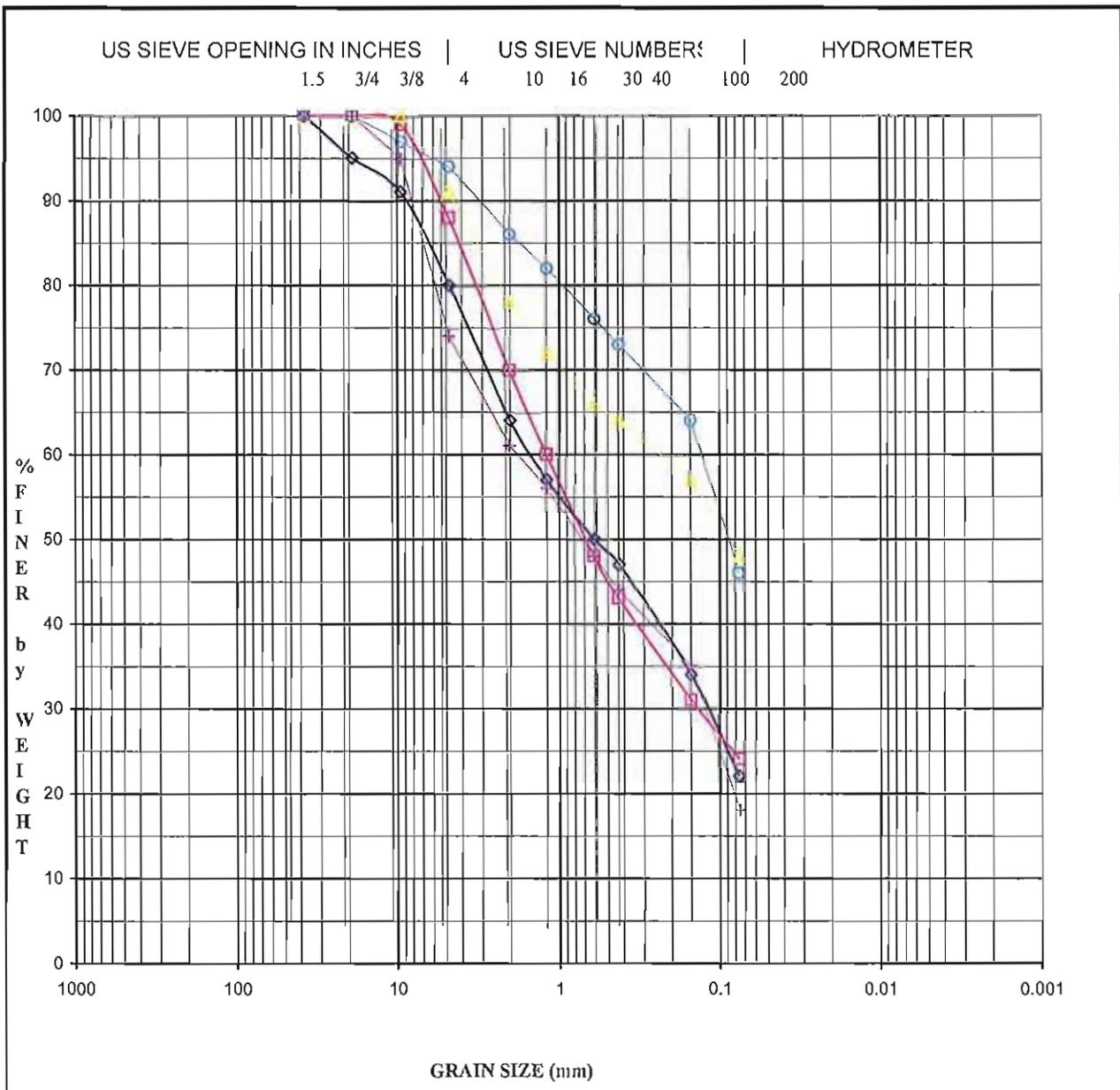
Figure No.:

# SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

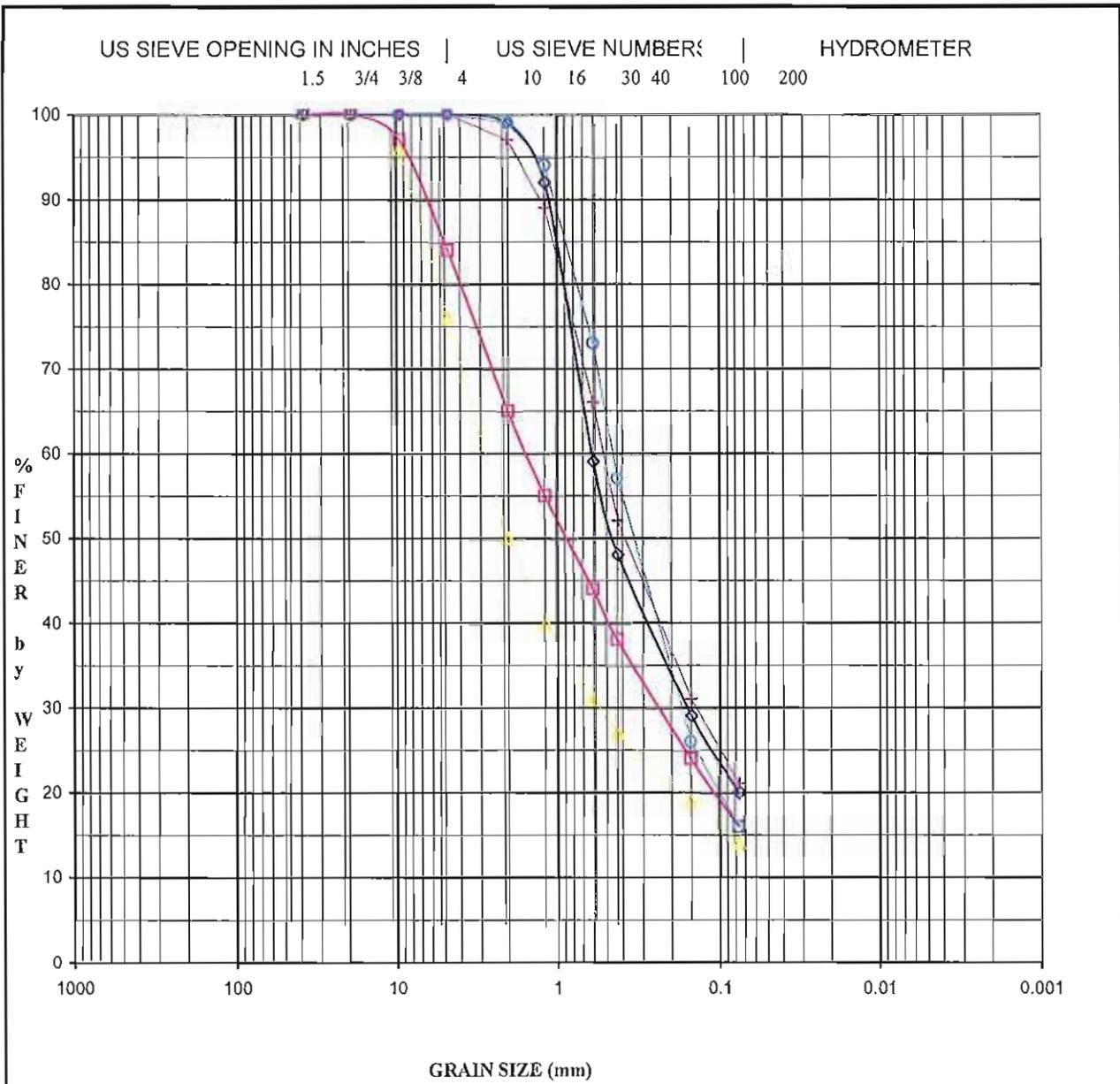
MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
<p><b>COARSE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</p>	<p>GRAVEL AND GRAVELLY SOILS</p> <p>MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE</p>	<p>CLEAN GRAVELS</p> <p>(LITTLE OR NO FINES)</p>		<b>GW</b>	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GP</b>	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GM</b>	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>GC</b>	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	<p>SAND AND SANDY SOILS</p> <p>MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE</p>	<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		<b>SW</b>	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		<b>SP</b>	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SM</b>	SILTY SANDS, SAND - SILT MIXTURES
		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		<b>SC</b>	CLAYEY SANDS, SAND - CLAY MIXTURES
<p><b>FINE GRAINED SOILS</b></p> <p>MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE</p>	<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>	<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>		<b>ML</b>	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
		<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>		<b>CL</b>	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>		<b>OL</b>	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>	<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>		<b>MH</b>	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
		<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>		<b>CH</b>	INORGANIC CLAYS OF HIGH PLASTICITY
		<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>		<b>OH</b>	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
<p>HIGHLY ORGANIC SOILS</p>				<b>PT</b>	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS





COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MED	FINE	

Specimen I.D.	Description	USCS	AASHTO	Group Index	LL	PI	PL		
◇ BV-01 @ 0-5 FEET	CLAYEY SAND	SC	A-2-6	0	25	11	14		
□ BV-02 @ 0-5 FEET	CLAYEY SILTY SAND	SC-SM	A-1-b	0	23	5	18		
△ BV-03 @ 0-5 FEET	CLAYEY SAND	SC	A-6	5	32	19	13		
○ BV-04 @ 0-5 FEET	CLAYEY SAND	SC	A-6	2	26	13	13		
† BV-05 @ 0-5 FEET	SILTY SAND	SM	A-1-b	0	NP	NP	NP		
Specimen I.D.	D100	D60	D30	D10	Cc	Cu	%Gravel	%Sand	%Silt&Clay
◇ BV-01 @ 0-5 FEET	37.50	1.53	0.125				20	58	22
□ BV-02 @ 0-5 FEET	19.00	1.18	0.139				12	64	24
△ BV-03 @ 0-5 FEET	9.50	0.27					9	43	48
○ BV-04 @ 0-5 FEET	19.00	0.13					6	48	46
† BV-05 @ 0-5 FEET	19.00	1.84	0.128				26	56	18



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	CRS	MED	FINE	

Specimen I.D.	Description	USCS	AASHTO	Group Index	LL	PI	PL
◇ BV-05 @ 14 FEET	SILTY SAND	SM	A-1-b	0	NP	NP	NP
□ BV-01 @ 6 FEET	SILTY SAND	SM	A-1-b	0	NP	NP	NP
△ BV-03 @ 19 FEET	SILTY SAND	SM	A-1-a	0	NP	NP	NP
○ BV-05 @ 9 FEET	CLAYEY SAND	SC	A-2-6	0	38	25	13
† BV-05 @ 7.5 FEET	CLAYEY SAND	SC	A-2-6	0	38	24	14

Specimen I.D.	D100	D60	D30	D10	Cc	Cu	%Gravel	%Sand	%Silt&Clay
◇ BV-05 @ 14 FEET	4.75	0.62	0.164				0	80	20
□ BV-01 @ 6 FEET	19.00	1.59	0.268				16	68	16
△ BV-03 @ 19 FEET	19.00	3.06	0.556				24	62	14
○ BV-05 @ 9 FEET	4.75	0.46	0.185				0	84	16
† BV-05 @ 7.5 FEET	4.75	0.53	0.143				0	79	21

**REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL**

Tested For: Jim Liljegren  
 Black and Veatch Corporation  
 6300 S. Syracuse Way  
 Suite 300  
 Centennial CO 80111

Project Name: Hermosa Wind Project  
 Sample Date: August 3, 2009  
 Project No. 532-95028  
 Report No. 0  
 Sample No. BV-03 & BV-04

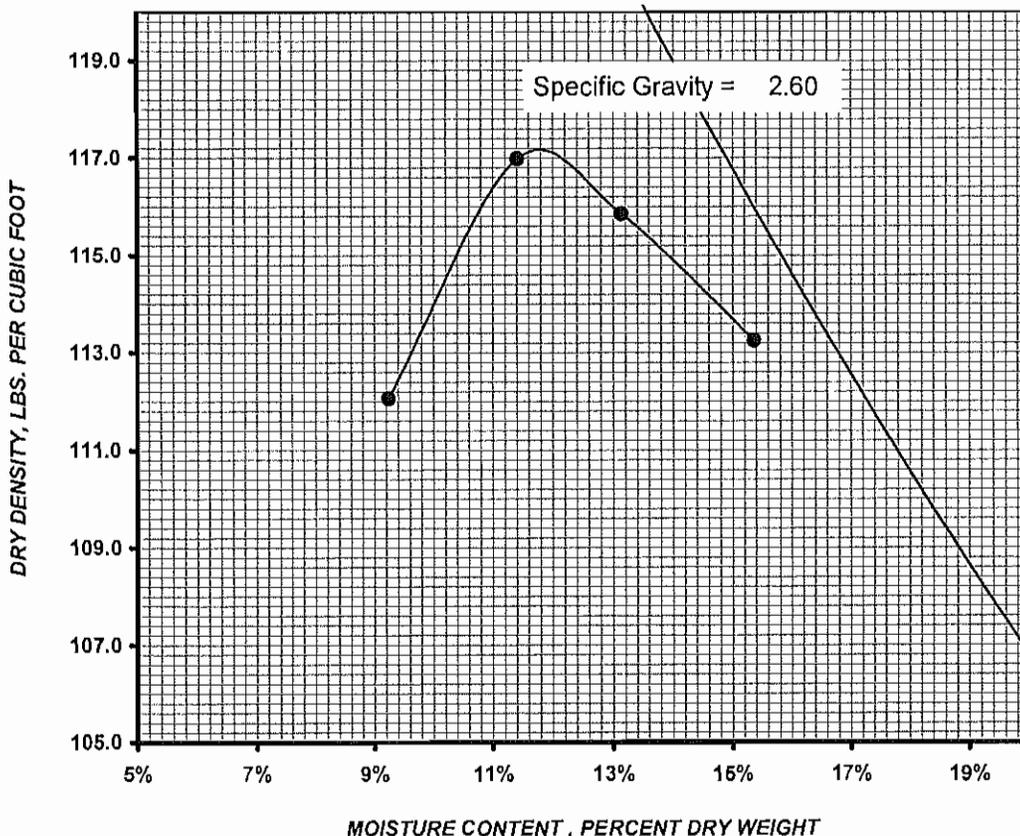
**Sample Source:** 0 to 5 feet  
**Sample Classification:** A-6 ( 4 ) SC Clayey SAND  
**General Description:**  
**Test Method:** ASTM D698 Method A  
**Rammer:** manual      **Method of Preparation:** (dry)  
**Atterberg Limits (AASHTO T-89/T-90)**  
 LL: 28    PL: 12    PI: 16  
**Specific Gravity:** 2.60 (estimate)  
**Maximum Dry Density (pcf):** 117.2  
**Optimum Moisture Content (%):** 11.6

**Grain Size Analysis**

(ASTM C136 and/ or C117)

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
1/2"	100
3/8"	100
No. 4	97
No. 8	91
No. 10	90
No. 16	86
No. 30	80
No. 40	76
No. 50	73
No. 100	65
No. 200	48.6

Delivered Moisture Content (%) 5.3



Respectfully Submitted,  
**Professional Service Industries, Inc.**

Remarks:

Lab Tech: D. Niehoff

Matt Satterfield Project Manager

REPORTS MAY NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION BY PROFESSIONAL SERVICE INDUSTRIES, INC.



# GeothermUSA

<http://www.geotherm.net>

6354 Clark Ave.  
Dublin, CA 94568  
Tel: 925-999-9232  
Fax: 925-999-8837  
[info@geothermusa.com](mailto:info@geothermusa.com)

August 18 2009

**PSI**

451 East 124<sup>th</sup> Ave.  
Thornton, CO 80241

**Attn: Matt Satterfield**

**Re: Thermal Analysis of Native Soil Samples  
Hermosa Wind Project**

The following is the report of the thermal dryout characterization test conducted on the native soil sample sent to our laboratory for testing.

**Thermal Resistivity Tests:**

For thermal dryout characterization, the sample was tested at **95% of the Standard Proctor density (117pcf) and at 11.5% moisture content.** The testing was conducted in accordance with the IEEE Standard and the thermal dryout curve is presented in **Figure 1.**

**Test Results:**

Sample Location	Sample Description	M/C (%)	Dry Density (pcf)	TR (C-cm/W) Wet	TR (C-cm/W) Dry
BV-03 & BV-04 @ 0' - 5'	Red sandy clayey SILT	11.5	111	54	127

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**GeothermUSA**

**Comments:**

The thermal characteristic depicted in the dryout curve applies for the soil at the test dry density.

Please contact us if you have any questions or if we can be of further assistance.

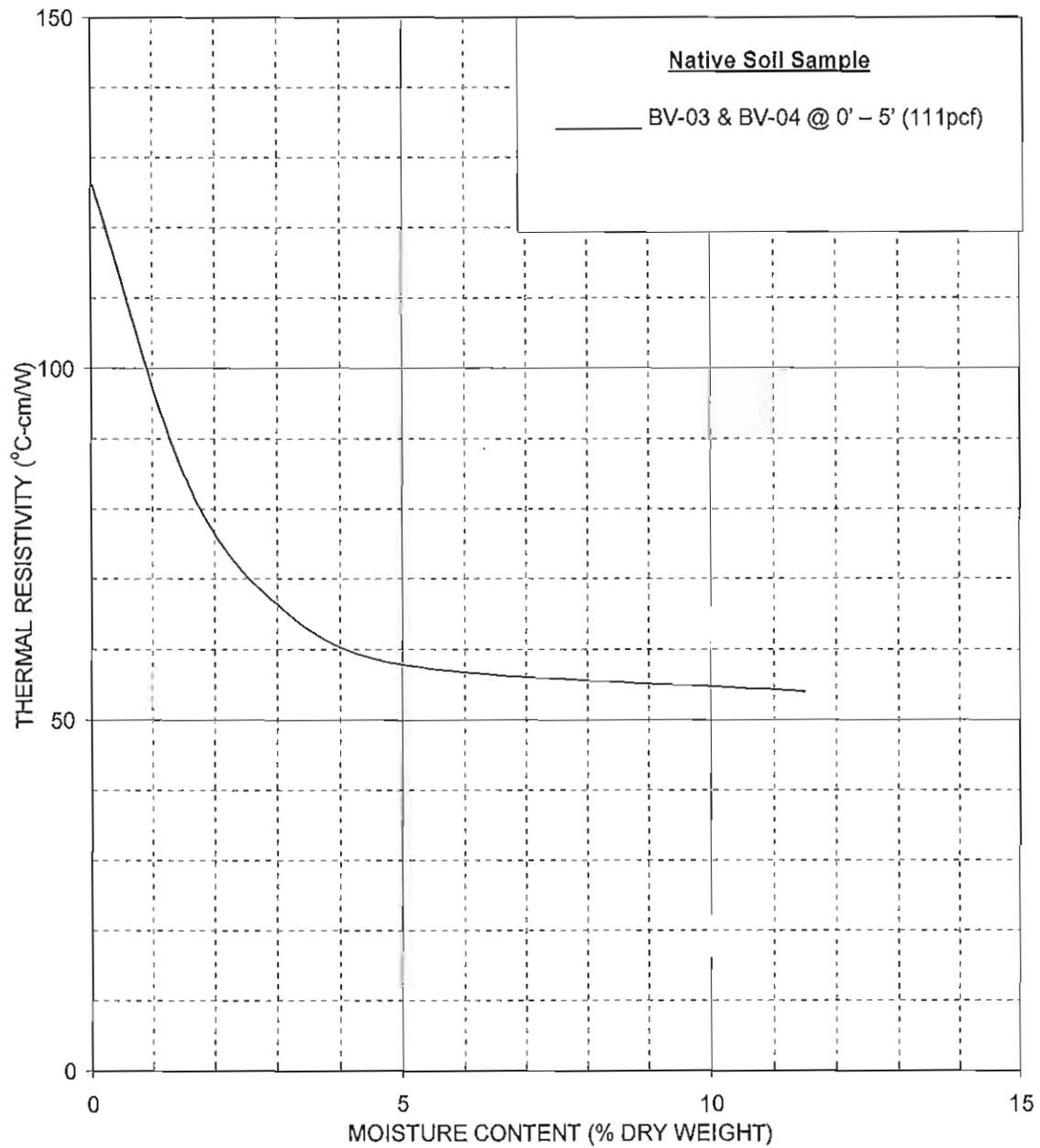
Geotherm USA

Geeta Parmar

**Please Note: All samples will be disposed of 5 days from date of report.**



### THERMAL DRYOUT CURVE



PSI

Native Soil Thermal Analysis

Hermosa Wind Project

August 2009

Figure 1

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**APPENDIX O**  
**SECOND GEOTECHNICAL INVESTIGATION RESULTS**

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Shell WindEnergy Inc.  
Hermosa West Wind Project

B&V Project 163577  
B&V File 41.0403  
January 15, 2010

Shell WindEnergy Inc.  
910 Louisiana  
Room 566B  
Houston, Texas 77002

Subject: Second Geotechnical Investigation Results

Attention: Mr. Nicholas W. Burkhead  
Senior Project Engineer

The purpose of this letter is to present the results of the second geotechnical investigation for the Hermosa West Wind project. This investigation was performed to provide additional geotechnical characterization of the Phase I portion of the project site. The investigation supplements the initial investigation that was performed by Black & Veatch in July 2009.

## **INTRODUCTION**

Field exploration activities began on October 26, 2009 with a preliminary walk-down of the site locations and cultural resource surveying of each boring location. Due to weather issues (early snow storm), drilling was forced to be delayed until the following week. Field exploration activities were continued on November 2, and completed November 5.

Geotechnical field investigation work was performed by Professional Services Industries Inc. (PSI), of Thornton, Colorado. Tasks performed by PSI included soil boring and rock coring, geotechnical logging and photography, boring log preparation, geophysical surveying, and laboratory testing. Black & Veatch developed the investigation program as well as provided site supervision during the investigation. Cultural resource monitoring was performed by Cultural Resource Analysts Inc. (CRA) of Longmont, Colorado, also under contract to Black & Veatch. The PSI geotechnical report is included as an attachment to this memorandum. The CRA report is also included as Attachment C.

The results of this second geotechnical investigation are presented herein.

## **SITE CONDITIONS**

The site is located in Southern Wyoming near the small town of Tie Siding, approximately 5 miles north of the Colorado/Wyoming border. No preliminary records were reviewed or previous investigation data were reviewed as part of the study; however, it appeared that structures constructed in the vicinity of the planned project – mainly farm and ranch related structures – were constructed on shallow foundations and are lightly loaded structures.

## **GEOTECHNICAL INVESTIGATION**

The field exploration program was performed to obtain information on subsurface conditions. Six additional borings were drilled, logged, and sampled as part of this investigation. Soil drilling, rock coring, and geophysical testing were performed by PSI. A Black & Veatch representative was present to monitor the investigation. Selected samples obtained during the subsurface investigation were tested in PSI's laboratory to provide data on the geotechnical classification and engineering characteristics of the onsite

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

soils. Utilities were cleared by PSI before drilling commenced. A cultural resources scientist from CRA monitored cultural and archeological aspects during all field activities.

The planned investigation, as shown in Attachment A, consisted of seven soil boring and rock coring locations (B-7 through B-13) and geophysical testing at five locations (B-3, B-5, B-9, B-12, and B-13) Rock coring was to be completed a minimum of 10 feet into sound rock at each boring location up to a maximum depth of 50 feet. Due to access limitations related to snow cover, two of the planned test locations (B-3 and B-12) were not accessible during the investigation. As a result, drilling at the B-12 location was not completed and the geophysical testing that was to be performed at locations B-3 and B-12 were changed to B-8 and B-11.

### *Boring Drilling and Sampling*

The subsurface conditions were investigated by drilling six additional borings (B7 through B11 and B13) on November 2 through 5, 2009. The approximate locations of the additional test borings are shown in Attachment A. Photos of each of the test locations are included in the CRA cultural resource report (Attachment C). Test borings are listed in Table 1.

Boring Number	Location	Elevation (feet MSL)	Depth (feet)	Notes
B7	N41.00722 W-105.5834	7840	20.0	Sandstone @ 10'
B8	N41.0476 W-105.5547	7939	23.0	Sandstone @ 9.0'
B9	N41.0723 W-105.5453	7715	45.0	Granite @ 34.0'
B10	N41.0622 W-105.5338	7832	20.0	Sandstone @ 6.0'
B11	N41.0074 W-105.5355	8090	20.0	Highly Fractured Granite @ 5.0'
B13	N41.0121 W-105.5070	7935	31.5	Granite @ 28.0'

The test borings were drilled using a rubber tire, truck-mounted Central Mine Equipment Model 55 (CME-55) drill rig. A photo of the drilling equipment is included in the CRA report (Attachment C). The test borings were advanced using 6-inch outside diameter solid-stem augers and NX double tube core barrel.

The test borings were continuously sampled to the top of bedrock using a 1-3/8-inch inside diameter split spoon sampler. Standard Penetration Tests (SPTs) were performed that involved driving the samplers using a 140 pound hammer falling 30 inches and recording the number of blows required for each 6 inches of penetration. The SPT resistance (N-value) of the soil was calculated as the number of blows required for the bottom 12 inches of penetration. If high penetration resistance prevented driving the total 1.5 foot length of the sampler, the penetration resistance for the partial penetration (limited to 50 blows for

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

less than 6 inches of penetration) was recorded. The N-values are shown on the attached boring logs. These N-values provide a measure of the relative density of granular soils and relative consistency of cohesive soils.

Rock coring was started at the top of bedrock as determined by auger bit refusal. Core runs were limited to less than 6 feet long to limit damage to the core during drilling. All cores were measured for percent recovery and rock quality designation (RQD) and photographed. The rock core photographs are included in the PSI report (Attachment B). With the exception of boring B-13, all boring locations were cored 10 feet. Boring B-9 was only cored 3-1/2 feet. The coring was stopped early because of the excessive time it was taking to advance the drilling, likely due to extremely hard rock. Boring B-11 was unable to retrieve core during the coring. Field notes for the boring indicated that highly fractured granite was encountered at 5 feet to the termination of the boring.

### *Geophysical Investigation*

Geophysical investigation was performed by PSI at five locations designated by Black & Veatch. Details of the methodology and results from the geophysical testing are discussed in the PSI report (Attachment B). A summary of the results is presented in Table 2.

Test Number	Location	Depth to Bedrock (feet)
B5	N41.00722 W-105.5834	Bedrock @ 10 to 15' deep
B8	N41.0476 W-105.5547	Bedrock @ 5 to 15' deep
B9	N41.0723 W-105.5453	Bedrock @ 25 to 30' deep
B11	N41.0074 W-105.5355	Bedrock @ 25 to 30' deep
B13	N41.0121 W-105.5070	Bedrock @ 22 to 38' deep

## **SUBSURFACE CONDITIONS**

### *Field Observations*

As observed during the previous investigation, the general subsurface soils consist of clayey and silty sand (USCS classification SC and SM) overlying bedrock. The bedrock consisted of either sandstone in the north or granite in the south portions of the site. The thickness of the overburden soils ranged from 5.0 to 34.0 feet, which is relatively consistent with the previous investigation. Descriptions of the sites included in the CRA cultural resource report indicated that locations B-12 and B-13 showed abundant granite bedrock outcroppings in the area (Attachment C). Overburden at the boring locations appeared to be residual soils with composition varying, depending on the underlying bedrock. In borings where sandstone was encountered, the overburden generally consisted of clayey sand to sandy clay (SC to CL). N-values in this overburden ranged from mid-twenties to the upper-forties. In borings where the granite bedrock was encountered, the overburden consisted of gravelly soils, which is consistent with the more

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

weathering-resistant parent material (granite). N-values within this overburden were generally greater than 50 blows per foot with SPT refusal occurring at most test depths.

Sandstone bedrock was generally described as cemented and fractured to highly fractured. Rock RQD values ranged from zero to as high as 72 with a general trend of increasing RQD with depth. Based on the geophysical testing, test location B-8 had shear wave velocities ranging from 3,500 to 6,500 feet per second (fps) with some softer zones, suggesting portions of the sandstone are highly weathered or uncemented.

Granite was generally described as fractured in parts with RQD values ranging from 20 to 60. Geophysical testing at yielded shear wave velocities that were slightly higher than the sandstone with values ranging from 4,000 to 8,000 fps.

Groundwater was encountered in only one test boring, B13, at 27.5 feet below the ground surface. This groundwater was observed at the soil/bedrock interface. All of the borings were immediately backfilled after drilling so delayed water levels were not measured.

#### *Laboratory Testing*

Index testing of selected soil samples verified that the overburden soil is generally classified as either clayey sand or poorly graded sands. Fines contents varied between approximately 10 to 60 percent liquid limits indicating low plasticity soils. Compaction testing (Standard Proctor) was performed on four bulk samples obtained from the upper 5 feet of the boring. Maximum dry densities varied between approximately 115 and 130 pounds per cubic foot with optimum moisture contents between 8 and 13 percent. Natural moisture contents of the soil are slightly dry of the optimum moisture content by 2 to 7 percent. It should be noted that moisture content of the soil is expected to vary throughout the year. Chemical test results of two soil samples resulted in chlorides content less than 9.4 milligrams/kilogram and a pH of approximately 9. Unconfined compression testing of the sandstone and granite bedrock indicated the strengths generally ranging between 1,000 and 2,000 pounds per square foot. The results of the one thermal resistivity test are presented in Attachment B.

#### **GENERAL CONCLUSIONS**

Based on the conditions encountered, the results of this investigation are consistent with the previous investigation. It is Black & Veatch's opinion that the subsurface conditions at the Hermosa West Wind Project site are suitable to support the planned wind turbine development. Typical gravity type wind turbine foundations with dimensions of 50 to 60 feet in diameter with depths of approximately 7 to 8 feet are reasonable given the investigation findings. The results of geophysical testing should be used to confirm that the manufacturer specific foundation stiffness requirements can be met at this site. Based on the boring locations, depth to rock appears sufficient to allow relatively easy excavation to the wind turbine foundation depths. For substation and other structures, conventional shallow footings bearing below the frost depth appear to be acceptable. Based on the laboratory testing results (generally low fines and low plasticity), the surface soils do not appear to have swelling characteristics. Based on auger penetration depths greater than 7.5 feet deep at both the previous and current investigations, trenching to install the collection system can be accomplished with conventional backhoe equipment, provided that the depth to hard rock does not become too shallow. The near surface soils observed can be used for road construction based on the generally medium dense, sandy soils.

As was noted in the previous geotechnical investigation, granite bedrock was expected in the southern portion of the site (Attachment A). During this recent investigation, the granitic bedrock was encountered in borings B-9, B-11, and B-13. As expected, the overburden in the areas where the granite was encountered was different from the areas where the sandstone bedrock was encountered. Fortunately,

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

based on the borings and the geophysical testing, the thickness of the overburden in the granite bedrock area is thicker than expected and based on the boring locations, shallow bedrock is less of a concern than was previously thought. Based on the CRA observations of abundant rock outcroppings at the B-12 and B-13 locations, the possibility of shallow bedrock and difficult excavation should still be considered in the design of this project.

It is important to note that these conclusions are generated from Black & Veatch's experience on past projects involving similar, but not identical, subsurface conditions. As such, an expanded geotechnical investigation is required for final detailed design of the project. As is typical of wind turbine projects, it is recommended that all turbine sites be investigated by boring or geophysical investigation and supported by more extensive laboratory testing and engineering analyses from which final design foundation and geotechnical engineering recommendations can be generated.

### LIMITATIONS

The opinions in this memorandum were prepared solely for the benefit of Shell WindEnergy Inc. ("Client") by Black & Veatch Corporation ("Black & Veatch") under the terms and conditions of the written agreement between Client and Black & Veatch ("the Agreement") and is based on information not within the control of Client or Black & Veatch. Neither Client nor Black & Veatch has made an analysis, verified data, or rendered an independent judgment of the validity of the information provided by others. WHILE IT IS BELIEVED THAT THE INFORMATION, DATA, AND OPINIONS CONTAINED HEREIN WILL BE RELIABLE UNDER THE CONDITIONS AND SUBJECT TO THE LIMITATIONS SET FORTH IN THIS MEMO, CLIENT AND BLACK & VEATCH DO NOT GUARANTEE THE ACCURACY THEREOF. EXCEPT AS EXPRESSLY ALLOWED BY THE AGREEMENT, THIS MEMO MAY NOT BE USED BY ANYONE WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF BLACK & VEATCH, AND SUCH USE SHALL CONSTITUTE AGREEMENT BY THE USER THAT ITS RIGHTS, IF ANY, ARISING FROM THIS MEMO SHALL BE SUBJECT TO THE TERMS OF BLACK & VEATCH AUTHORIZATION, AND IN NO EVENT SHALL USER'S RIGHTS, IF ANY, EXCEED THOSE OF CLIENT UNDER THE AGREEMENT. USE OF THIS MEMO BY UNAUTHORIZED PARTIES SHALL CONSTITUTE AGREEMENT OF SUCH PARTIES TO DEFEND AND INDEMNIFY CLIENT AND BLACK & VEATCH FROM CLAIMS AND LIABILITY ARISING FROM SUCH UNAUTHORIZED USE.

Thank you for the opportunity to work with you on this project and please call if you have any further questions.

Sincerely,

BLACK & VEATCH



James Liljegren, PE\*, RG\*  
Project Engineer  
\* Registered in MO



Sean Tilley  
Project Manager

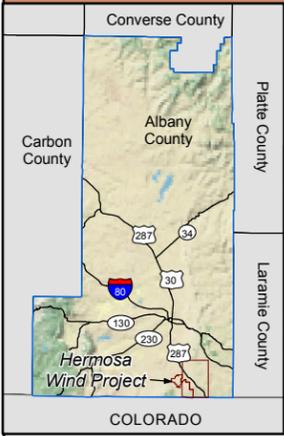
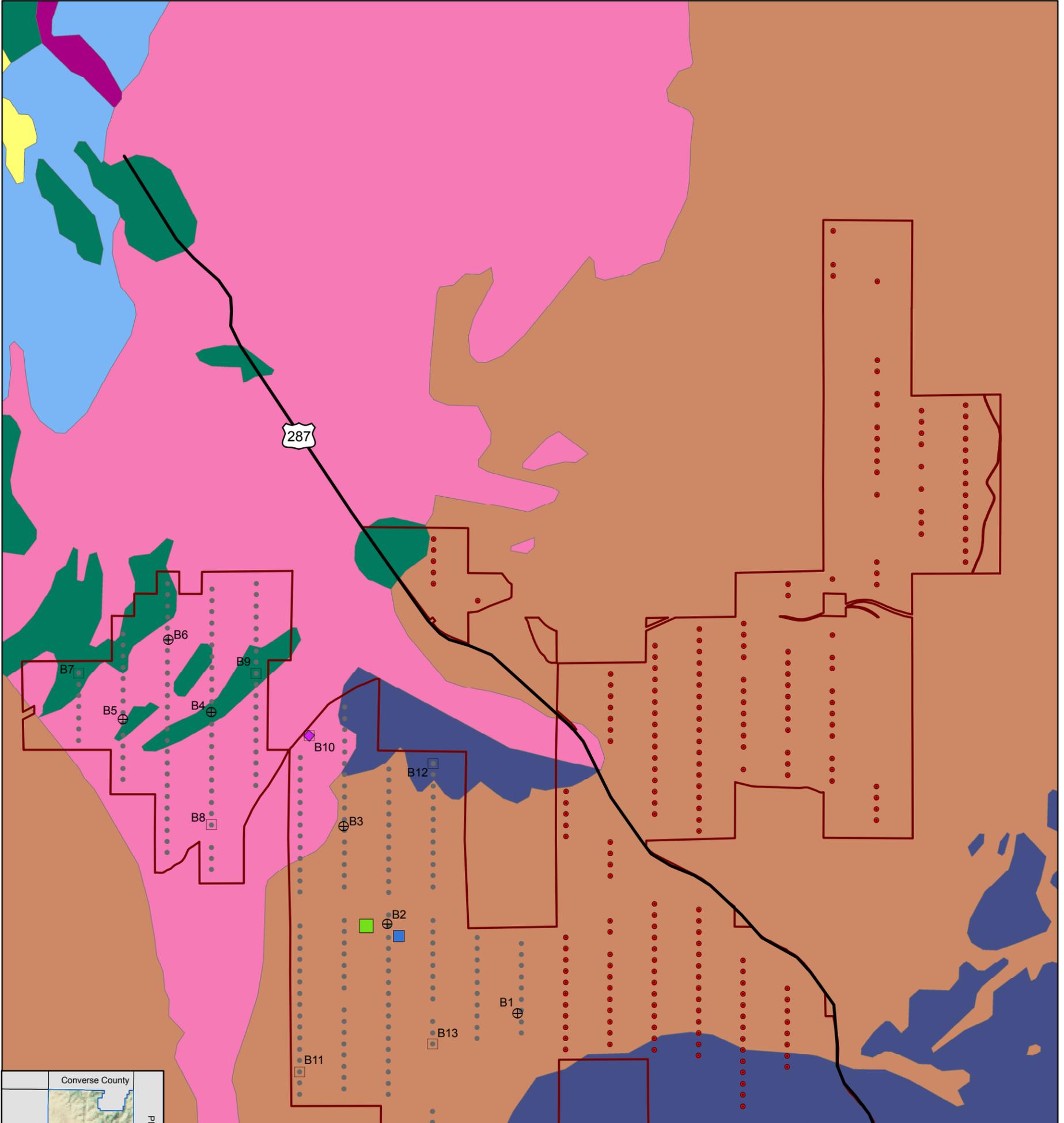
#### Attachments:

- A. Boring Location Map
- B. PSI Boring Logs and Laboratory Results
- C. CRA Cultural Resource Report

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

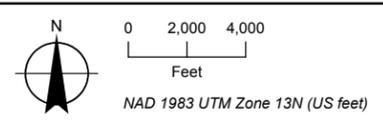
Attachment A - Boring Location Map



Boring	Easting (ft)	Northing (ft)	Longitude (degrees)	Latitude (degrees)	Depth (ft)	Remarks
B7	1479614	14917722	-105.5834	41.0722	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B8	1487469	14908719	-105.5547	41.0476	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B9	1490110	14917702	-105.5453	41.0723	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B10	1493265	14914002	-105.5338	41.0622	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B11	1492688	14894061	-105.5355	41.0074	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B12	1500595	14912355	-105.5072	41.0578	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet
B13	1500563	14895711	-105.5069	41.0121	50	If top of bedrock is less than 50 feet, then core 10 feet into bedrock; Collect bag sample 0 to 5 feet

Notes:  
 1) Coordinates are in NAD 1983, UTM Zone 13N  
 2) Geophysical Testing Locations Will Be Determined Later.  
 3) Depending on soil and drilling conditions at the site, the number of borings may be increased or decreased based on the budget spent.

- Proposed Soil Borings
- ⊕ Existing Soil Borings
- Phase 1 Turbines
- Phase 2 Turbines
- ▭ Project Lease Boundary
- Laydown Area
- ◆ O&M
- Substation
- alluvium
- granite
- limestone
- metasedimentary rock
- fine-grained mixed clastic
- sandstone
- shale
- siltstone
- unconsolidated deposit



## Subsurface Investigation Plan

Hermosa Wind Project  
 Shell Wind Energy Inc.  
 Albany County, Wyoming

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

Attachment B - PSI Boring Logs and Laboratory Results

Black & Veatch Corporation  
11401 Lamar Avenue  
Overland Park, Kansas 66211

December 3, 2009

Attention: Mr. Eng-Chew Ang

**Subject: Report of Second Subsurface Investigation  
Hermosa Wind Project, Wyoming  
PSI Project No.: 532-95048**

Dear Mr. Ang:

Professional Service Industries, Inc. (PSI) is pleased to present our Report of Second Subsurface Investigation for the Hermosa Wind Project. PSI previously performed a field investigation for this project and provided results on September 2, 2009. We performed a second field investigation for the subject project on November 2, 2009 through November 5, 2009. Activities were performed in general accordance with Black & Veatch Task Order dated October 16, 2009. The field investigation was performed using a CME-55 drill rig to advance 6 inch, hollow stem augers and rock cores. Geophysical testing was also performed at 5 locations. The site was generally vacant ranchland. Conditions during drilling included temperatures from 20 to 50 degrees. Also, snow drifts were encountered in several areas due to a previous snowstorm. This report includes our geophysical results, boring logs and laboratory test results.

We appreciate the opportunity to perform the geotechnical engineering services for this project and look forward to continued participation during the design and construction phases of this project. If you have any questions pertaining to this report, or if we may be of further service, please contact our office.

Respectfully submitted,

**PROFESSIONAL SERVICE INDUSTRIES, INC.**



Matthew Satterfield, E.I.  
Staff Engineer



Kyle R. Duitsman, P.E.  
Department Manager

Black & Veatch Corporation  
11401 Lamar Avenue  
Overland Park, Kansas 66211

December 3, 2009

Attention: Mr. Eng-Chew Ang

**Report of Refraction Microtremor Geophysical Testing  
Hermosa Wind Project  
Phase 1  
Tie Siding, Wyoming  
PSI Project Number 532-95048**

Dear Mr. Ang:

As authorized, Professional Service Industries, Inc. has performed geophysical testing for the proposed Hermosa Wind Project near Tie Siding, Wyoming. This study was performed in general accordance with the Black & Veatch Task Order dated October 16, 2009.

**Subsurface Exploration**

To generally characterize the nature of subsurface conditions at the specified locations, we conducted a series of geophysical soundings within the property. For this project, PSI used the Refraction Microtremor (ReMi) method, which is a form of Multi Channel Analysis of Surface Waves (MASW). The ReMi method is described in Louie, 2001 (Louie, J, N., 2001, Faster, Better: Shear-wave velocity to 100 meters depth from refraction microtremor arrays: Bulletin of the Seismological Society of America, v. 91, p. 347-364). The method uses standard P-wave recording equipment and ambient noise to produce average one-dimensional shear-wave profiles.

Five specific array locations were used to evaluate conditions within this site. The lines at each location were 345 feet in length and incorporated 24 geophone locations. Data was recorded in 20 second sample intervals, with a 2 millisecond sampling rate per channel. The lines used a geophone spacing of 15 feet. Once collected, the data were checked for their fidelity. To assure that a robust profile was being made, both individual recordings and multiple summed (stacked) recordings were evaluated.

Each individual profile location correlates to a soil test boring that was performed by PSI. For example, Profile Line B5 was started Boring 5 and continued north for the length of the array. PSI ran the profiles in a way so that the surface elevation changes were as minimal as possible. Surface elevations were taken on site using a GPS device.

**Geotechnical Assessment**

The results of the geophysical testing are presented on two dimensional profiles generated from the geophysical soundings (Figures 1 through 5) that indicate variations in shear wave velocities with depth below the ground surface (approximately 60 feet below the existing grades) along the length of each array.

## Summary

The following analysis for each profile is based on PSI's familiarity with similar soil and bedrock along with the published information in the Caterpillar Performance Handbook.

### Line B5

The profile from Line B5 shows low shear wave velocity material (500 to 1,000 ft/sec) to depths of approximately 10 to 20 feet below grade. PSI interprets this as overburden sandy material. Below this, moderate shear wave material (2,000 to 4,000 ft/sec) overlies high shear wave velocity material (greater than 4,000 ft/sec). PSI interprets this as sandstone or siltstone bedrock that may be highly fractured within the upper 20 to 30 feet. Rippability within the overburden material and the upper highly fractured zone of the bedrock should be easily excavated using conventional excavation equipment similar to a D9 Caterpillar Dozer or backhoe with rock excavation teeth. However, a heavier dozer and an automatic hammer might be needed for excavations below 30 feet of rock.

### Line B8

The profile from Line B8 shows 0 to 5 feet of low velocity material and low to moderate shear wave velocity material (500 to 2,000 ft/sec) to depths of approximately 5 to 15 feet below grade. PSI interprets this as silty sand overburden material. Below this, moderate to high shear wave material (3,500 to 6,500 ft/sec) is found with zones of moderate shear wave velocity material (2,000 to 3,500 ft/sec). PSI interprets this as sandstone bedrock that contains zones of uncemented sands. This interpretation was confirmed in our soil borings. Rippability within the overburden and bedrock materials should be easily excavated using conventional excavation equipment similar to a D9 Caterpillar Dozer or backhoe. However, a heavier dozer and an automatic hammer might be needed in areas of highly cemented sandstone for example, shear wave velocities in excess of 4,000 ft/sec.

### Line B9

The profile from Line B9 shows low to moderate shear wave velocity material (500 to 2,000 ft/sec) to depths of approximately 25 to 30 feet below grade. PSI interprets this as silty sand and gravel overburden material. Below this, moderate to high shear wave material (4,000 to 6,500 ft/sec) is found extending to the termination of the profile. PSI interprets this as granite that is fairly uniform in depth and consistency. This interpretation was confirmed in our soil borings. Rippability within the overburden materials should be easily excavated using conventional excavation equipment similar to a D9 Caterpillar Dozer or backhoe. However, a heavier dozer and an automatic hammer will likely be needed within the granite bedrock.

### Line B11

The profile from Line B11 shows low to moderate shear wave velocity material (500 to 2,500 ft/sec) to depths of approximately 25 to 30 feet below grade. PSI interprets this as sand and gravel overburden material which may be very dense in areas. Below this, moderate to high shear wave material (3,000 to 5,500 ft/sec) is found with zones of moderate shear wave velocity material (2,000 to 3,500) at the overburden/bedrock interface. PSI interprets this as granite bedrock that may be highly fractured within the upper 10 to 20 feet. Rippability within the overburden and bedrock materials should be easily excavated using conventional excavation



equipment similar to a D9 Caterpillar Dozer or backhoe. However, a heavier dozer and an automatic hammer might be needed in areas of competent granite bedrock. Bedrock surfaces appear to be somewhat irregular.

Line B13

The profile from Line B13 shows low to moderate shear wave velocity material (500 to 2,000 ft/sec) to depth of approximately 20 to 35 feet below grade. PSI interprets this as sand and gravel overburden material. Below this, high shear wave material (4,500 to 8,000 ft/sec) is found extending to the termination of the profile. PSI interprets this as granite bedrock that is generally dipping to the northwest. This interpretation of soil and bedrock type was confirmed in our soil borings. Rippability within the overburden materials should be easily excavated using conventional excavation equipment similar to a D9 Caterpillar Dozer or backhoe. However, a heavier dozer and an automatic hammer will likely be needed in areas of granite bedrock.

Void areas were not detected within the profiles.

We appreciate the opportunity to serve as your consultant for this project. Should you have any questions, please feel free to call at your convenience.

Respectfully submitted,

**PROFESSIONAL SERVICE INDUSTRIES, INC.**

  
Matthew R. Satterfield, E.I.  
Staff Engineer

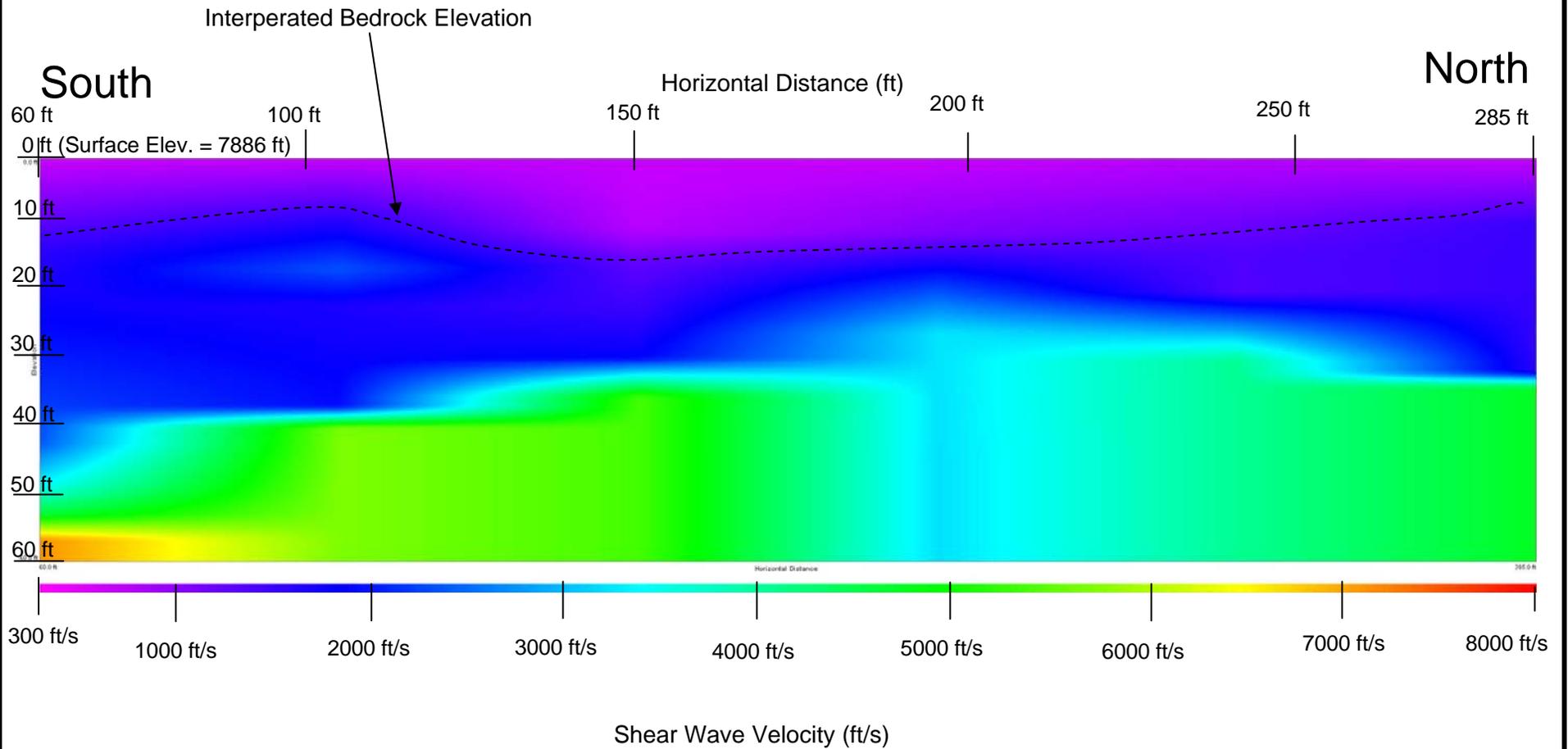
  
Kyle R. Duitsman, P.E.  
Department Manager

  
Kevin C. Miller, P.E.  
Chief Engineer

Attachments: Figures 1 through 5 – Geophysical Profiles



# Line B5 Profile

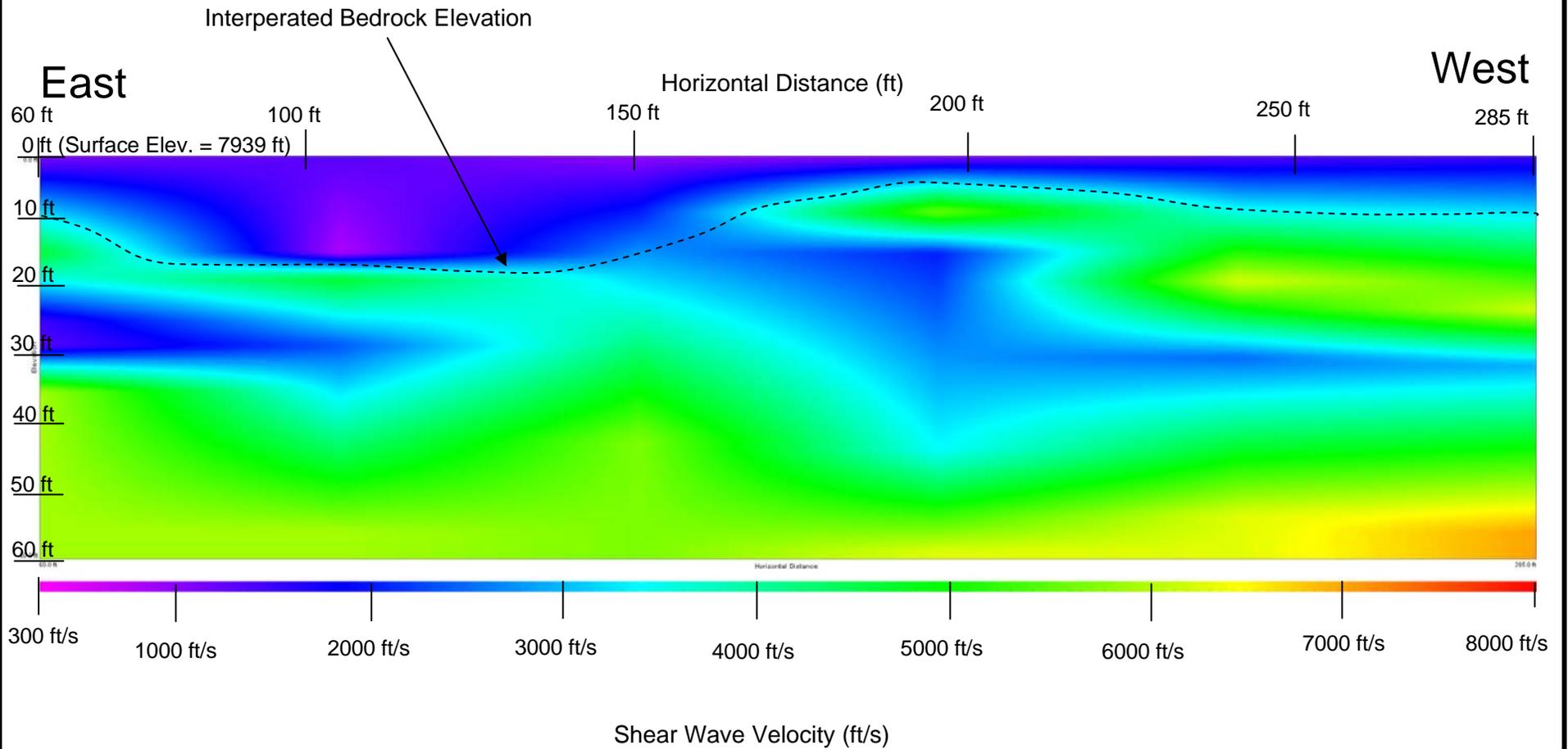


PSI Project No. 532-95048

Line 5 Shear Wave Velocity Two-Dimensional Profile  
Hermosa Wind Project  
Tie Siding, Wyoming

**PSI** Information  
To Build On  
Engineering • Consulting • Testing

# Line B8 Profile

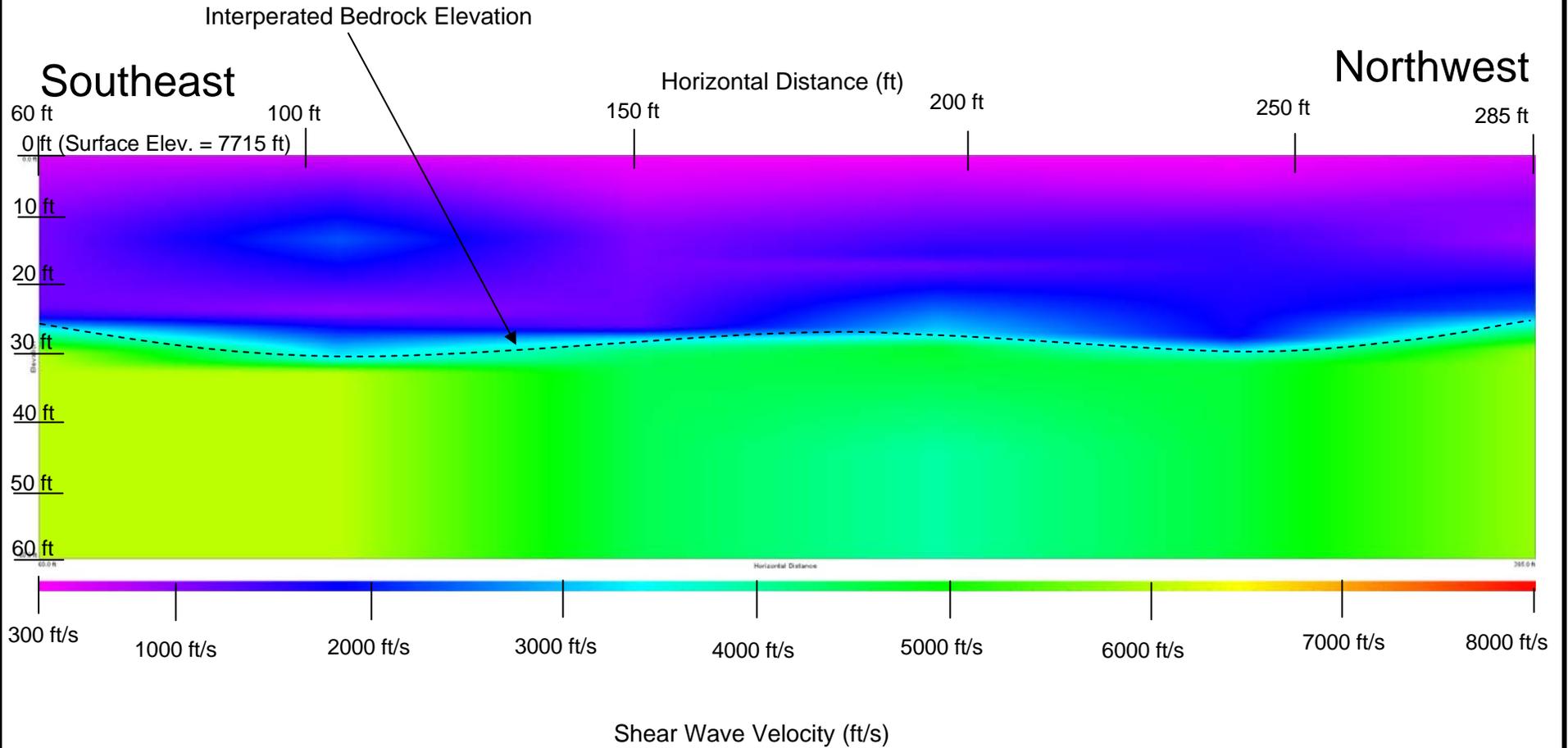


PSI Project No. 532-95048

Line 8 Shear Wave Velocity Two-Dimensional Profile  
Hermosa Wind Project  
Tie Siding, Wyoming

**PSI** Information  
To Build On  
Engineering • Consulting • Testing

# Line B9 Profile

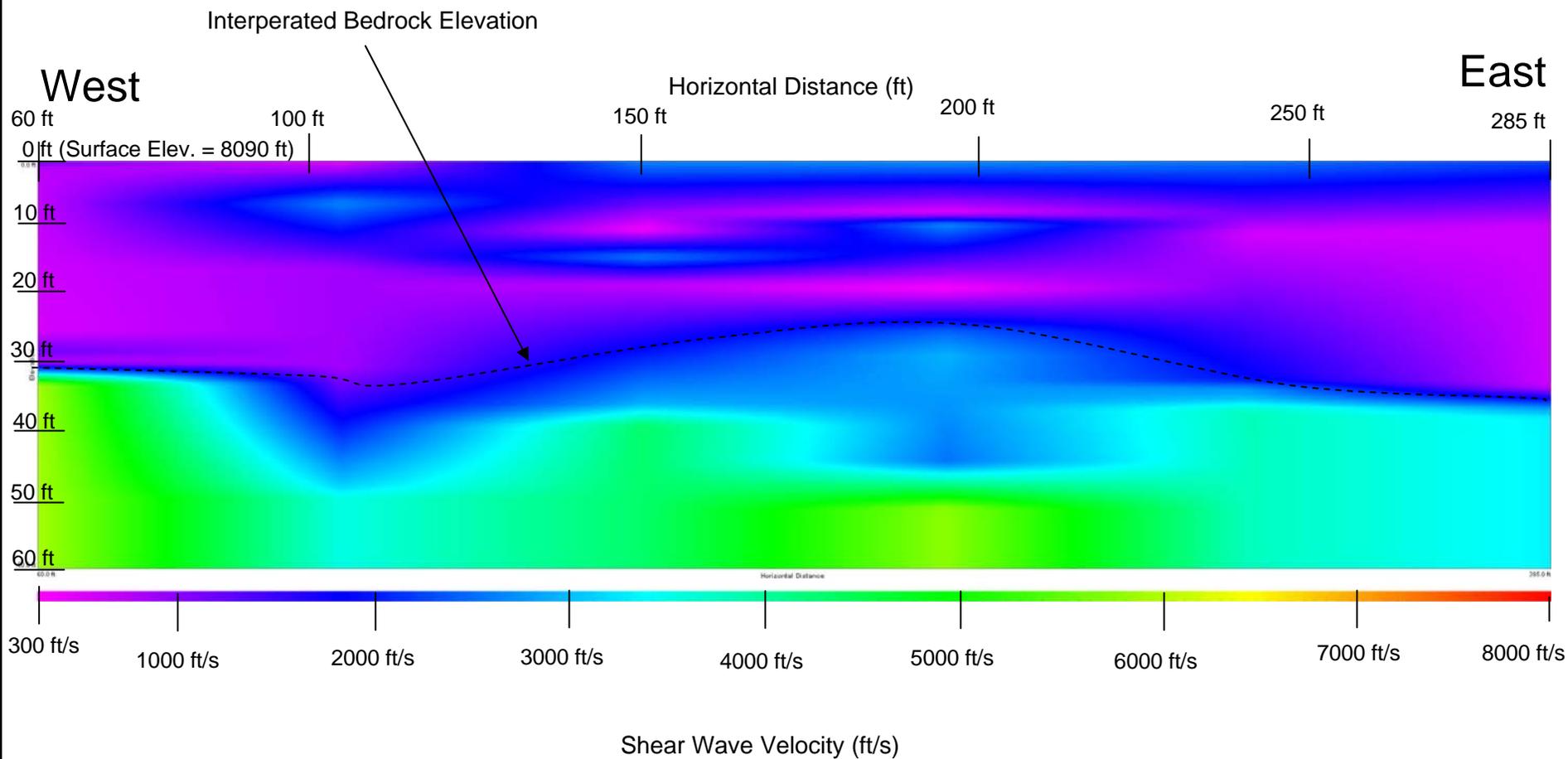


PSI Project No. 532-95048

Line 9 Shear Wave Velocity Two-Dimensional Profile  
Hermosa Wind Project  
Tie Siding, Wyoming



# Line B11 Profile

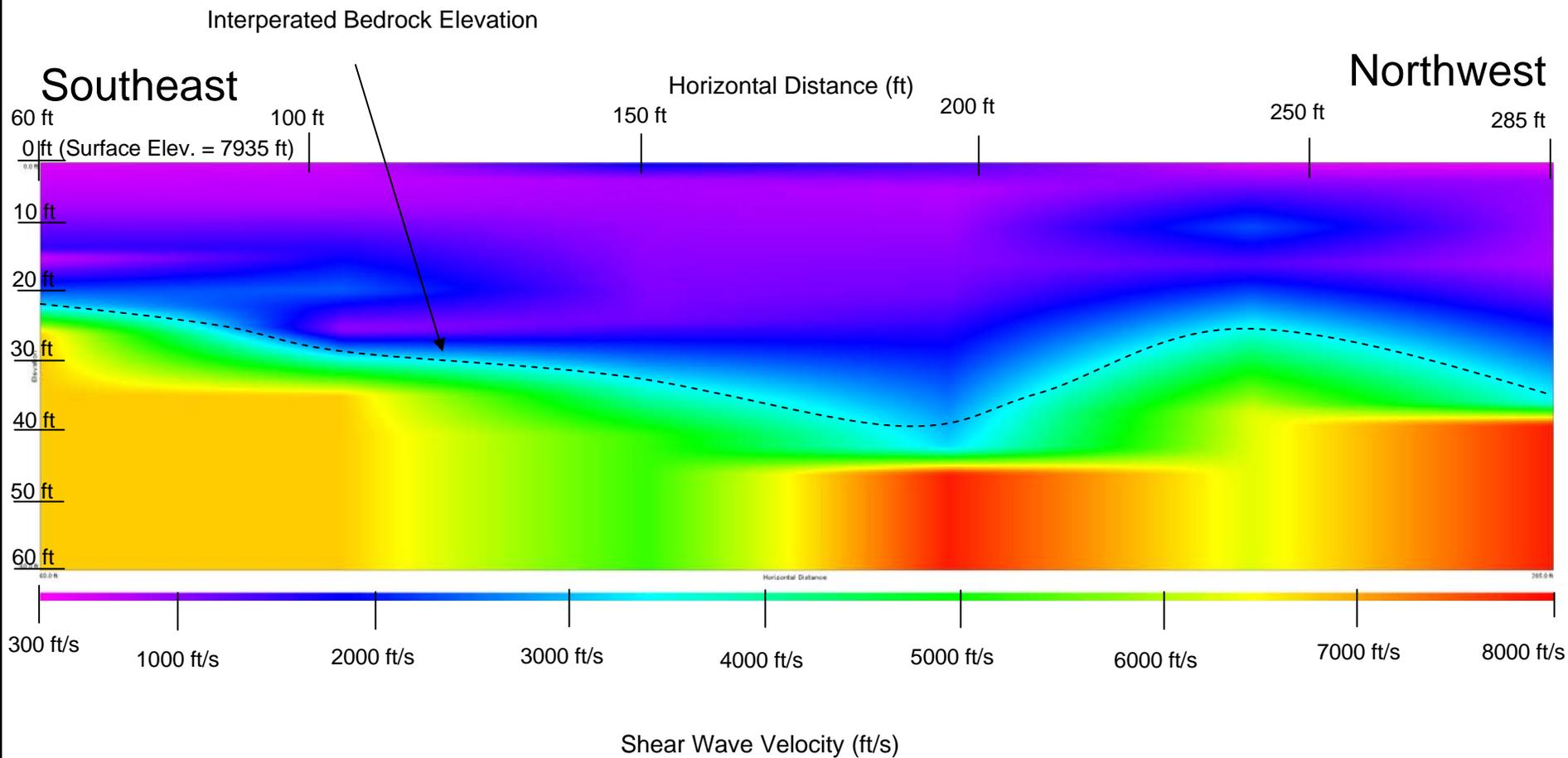


PSI Project No. 532-95048

Line 11 Shear Wave Velocity Two-Dimensional Profile  
Hermosa Wind Project  
Tie Siding, Wyoming



# Line B13 Profile



PSI Project No. 532-95048

Line 13 Shear Wave Velocity Two-Dimensional Profile  
Hermosa Wind Project  
Tie Siding, Wyoming

**PSI** Information  
To Build On  
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Professional Service Industries, Inc.  
 451 E 124th Ave.  
 Thornton, CO 80241-2420  
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 Fax: (303)423-5625

# LOG OF BORING B7

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b>	
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	▽ While Drilling	NE
Location: Phase I	Hammer Type: CME Manual	▼ Upon Completion	NE
Tie Siding, Wyoming	Boring Location: W. Portion - Phase 1	▼ Delay	N/A

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	MATERIAL DESCRIPTION	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	STANDARD PENETRATION TEST DATA				Additional Remarks	
									N in blows/ft ©					
									Moisture, %					
									STRENGTH, tsf					
									Moisture, %					
									STRENGTH, tsf					
0			1	18		Surface Elev.: 7804.0 ft		3-3-4 N=7						
			2	18		<b>CLAYEY SAND (SC)</b> , fine grained, dry to slightly moist, reddish brown, loose to medium dense below 2 ½ feet	SC	7-10-14 N=24						Comp. Sample (0-5) SC A(4)-1
7800			3	18			5-8-13 N=21		7	×				Fines=42.5%
5			4	18		Fine to medium grained clayey sand (SC) with trace amounts of fine gravel below 7 ½ feet		6-12-14 N=26						Fines=15.5%
7795			5	40		<b>SANDSTONE</b> , cemented, highly fractured in parts, dry to slightly moist, reddish brown, very dense		RQD=0 Rec=83%						
7790			6	67				RQD=43 Rec=93%						Comp Str = 1280 psi
7785						Boring terminated at 20 feet								

Completion Depth: 20.0 ft	Sample Types:	Latitude: 41.0722°
Date Boring Started: 11/3/09	Auger Cutting	Longitude: -105.5834°
Date Boring Completed: 11/3/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	<b>Figure Number: 1</b>
	Hand Auger	
	Mod. California	

The stratification lines represent approximate boundaries. The transition may be gradual.



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# LOG OF BORING B8

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b> ▽ While Drilling NE ▽ Upon Completion NE ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	
Location: Phase I Tie Siding, Wyoming	Hammer Type: CME Manual Boring Location: SW Portion - Phase 1	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ⊙ × Moisture    ⊠ PL ⊕ LL	STRENGTH, tsf ▲ Qu    * Qp	Additional Remarks
						Surface Elev.: 7939.0 ft						
	0			1	18	<b>CLAYEY SAND (SC)</b> , fine to coarse grained, dry to slightly moist, light brown to gray, medium dense to very dense,  Reddish brown below 7 ½ feet	SC	5-8-4 N=12				Comp. Sample (0-5) SC A-2-6 (0) CBR = 22  WSS = < 0.01%  Fines=14.0%
				2	18			4-9-11 N=20				
7935	5			3	18			19-21-28 N=49	5	×		
				4	9			35-50/3" N=85				
7930	10			5	3	<b>SANDSTONE</b> , cemented, fractured in parts, slightly moist, reddish brown, very dense  Uncemented sandstone at 22 ½ to 23 Boring terminated at 23 feet	50/3"					Comp Str = 1940 psi
				6	60			RQD=61 Rec=100%				
7925	15			7	60			RQD=72 Rec=100%				
7920	20											

Completion Depth: 23.0 ft	Sample Types:	Latitude: 41.0476°
Date Boring Started: 11/2/09	Auger Cutting             Shelby Tube	Longitude: -105.5547°
Date Boring Completed: 11/2/09	Split-Spoon             Hand Auger	Drill Rig: CME-55
Logged By: MS	Rock Core             Mod. California	Remarks: ReMi Location
Drilling Contractor: PSI, Inc.		<b>Figure Number: 2</b>

The stratification lines represent approximate boundaries. The transition may be gradual.



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# LOG OF BORING B9

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b> ▽ While Drilling NE ▼ Upon Completion NE ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	
Location: Phase I Tie Siding, Wyoming	Hammer Type: CME Manual Boring Location: NW Portion - Phase 1	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ⊙ × Moisture    ■ PL + LL	STRENGTH, tsf ▲ Qu    * Qp	Additional Remarks
						Surface Elev.: 7715.0 ft						
	0			1	18	<b>POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM)</b> , dry to slightly moist, light brown to brown, medium dense to very dense below 2 ½ feet	SP-SM	4-9-15 N=24				
				2	18		19-43-43 N=86					>>⊙
7710	5			3	5		50/5"					>>⊙
				4	5		50/5"					>>⊙
7705	10			5	4		50/4"					>>⊙
				6	5		100/5"					>>⊙
7695	20			7	3		100/3"					>>⊙
				8	2		50/2"					>>⊙
7690	25			9	1		50/1"					>>⊙
				10	48	<b>GRANITE</b> , fractured in parts, red, black, white, gray		RQD=57 Rec=80%				Comp Str = 1060 psi
7680	35			11	57			RQD=48 Rec=95%				
7675	40											
7670	45					Boring terminated at 45 feet						

Completion Depth: 45.0 ft	Sample Types:	Latitude: 41.0723°
Date Boring Started: 11/2/09	Auger Cutting             Shelby Tube	Longitude: -105.5453°
Date Boring Completed: 11/3/09	Split-Spoon             Hand Auger	Drill Rig: CME-55
Logged By: MS	Rock Core             Mod. California	Remarks: ReMi Location
Drilling Contractor: PSI, Inc.		<b>Figure Number: 3</b>

The stratification lines represent approximate boundaries. The transition may be gradual.



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# LOG OF BORING B10

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b> ▽ While Drilling NE ▼ Upon Completion NE ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	
Location: Phase I Tie Siding, Wyoming	Hammer Type: CME Manual Boring Location: O&M Area - Phase 1	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ⊙ × Moisture    ■ PL + LL	STRENGTH, tsf ▲ Qu    * Qp	Additional Remarks
					Surface Elev.: 7832.0 ft						
7830	0		1	18	<b>SANDY LEAN CLAY (CL)</b> , with gravel in parts, slightly moist, reddish brown, stiff to hard	CL	5-11-15 N=26	6	×	■	LL = 13 PL = 18 Fines = 54.9% Comp. Sample (0-5) CL A-6 (3) WSS = 0.01%
			2	18			18-21-22 N=43				
5			3	18			11-11-34 N=45				
7825			4	3	<b>SANDSTONE</b> , cemented, fractured, slightly moist, reddish brown, gray, very dense		50/3"				>>⊙
			5	27			RQD=14 Rec=45%				Comp Str = 1060 psi
10			6	36			RQD=33 Rec=60%				
7820											
15											
7815											
20					Boring terminated at 20 feet						

Completion Depth: 20.0 ft	Sample Types:	Latitude: 41.0622°
Date Boring Started: 11/3/09	Auger Cutting	Longitude: -105.5338°
Date Boring Completed: 11/4/09	Split-Spoon	Drill Rig: CME-55
Logged By: MS	Rock Core	Remarks:
Drilling Contractor: PSI, Inc.	Shelby Tube	<b>Figure Number: 4</b>
	Hand Auger	
	Mod. California	

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# LOG OF BORING B11

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b> ▽ While Drilling NE ▼ Upon Completion NE ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	
Location: Phase I Tie Siding, Wyoming	Hammer Type: CME Manual Boring Location: S. Portion - Phase 1	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ⊙	Additional Remarks	
						Surface Elev.: 8090.0 ft				× Moisture    ▣ PL ▣ LL 0                    25                    50		
	0			1	16	<b>POORLY GRADED SANDY GRAVEL (GP)</b> , fine to medium grained, slightly moist, red, black, white, gray, very dense	GP	11-20-50/4" N=70			>>⊙	
				2	2			50/2"				>>⊙
8085	5			3	0			RQD=0 Rec=0%				
8080	10			4	0			RQD=0 Rec=0%				
8075	15			5	0			RQD=0 Rec=0%				
8070	20					Boring terminated at 20 feet						

Completion Depth: 20.0 ft	Sample Types:	Latitude: 41.0074°
Date Boring Started: 11/4/09	▣ Auger Cutting	Longitude: -105.5355°
Date Boring Completed: 11/4/09	▣ Split-Spoon	Drill Rig: CME-55
Logged By: MS	▣ Rock Core	Remarks: ReMi Location
Drilling Contractor: PSI, Inc.	▣ Shelby Tube	<b>Figure Number: 5</b>
	▣ Hand Auger	
	▣ Mod. California	

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# LOG OF BORING B13

Sheet 1 of 1

PSI Job No.: 532-95048	Drilling Method: Hollow Stem Auger/NX Core	<b>WATER LEVELS</b> ▽ While Drilling 27.5 ft ▽ Upon Completion N/A ▽ Delay N/A
Project: Hermosa Wind Project	Sampling Method: Split Spoon/NX Core	
Location: Phase I Tie Siding, Wyoming	Hammer Type: CME Manual Boring Location: S. Portion - Phase 1 20' S of original location	

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	Station: N/A Offset: N/A	USCS Classification	Blows per 6-inch RQD & Recovery % (NX)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ⊙ × Moisture    ▣ PL + LL	STRENGTH, tsf ▲ Qu    * Qp	Additional Remarks
						Surface Elev.: 7935.0 ft						
	0			1	18	<b>POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM)</b> , dry to slightly moist, dark brown to brown, loose to very dense below 2 ½ feet  Water perched on top of bedrock at 27 ½ feet  <b>GRANITE</b> , fractured in parts, red, black, white, gray  Difficult coring. Advanced 6 inches in 2 hours.  Boring terminated at 31 ½ feet	SP-SM	2-3-3 N=6	⊙			Comp. Sample (0-5) SP-SM A-1-b (0) CBR = 29
				2	18		21-34-50 N=84					>>⊙
7930	5			3	11		36-50/5"					>>⊙
				4	11		37-50/5"					>>⊙
7925	10			5	5		50/5"					>>⊙
				6	4		50/4"					>>⊙
7920	15			7	3		50/3"					>>⊙
7915	20			8	3		50/3"					>>⊙
7910	25			9	3							>>⊙
7905	30				42			RQD=20 Rec=100%			Comp Str = 2480 psi	

Completion Depth: 32.0 ft	Sample Types:	Latitude: 41.0121°
Date Boring Started: 11/5/09	▣ Auger Cutting	Longitude: -105.5070°
Date Boring Completed: 11/5/09	⊙ Split-Spoon	Drill Rig: CME-55
Logged By: MS	▣ Rock Core	Remarks: ReMi Location
Drilling Contractor: PSI, Inc.	▣ Shelby Tube	<b>Figure Number: 6</b>
	▣ Hand Auger	
	▣ Mod. California	

The stratification lines represent approximate boundaries. The transition may be gradual.

Inside!!

NX-NO DIVIDER

BOREING 10  
END 15'-20'

BOREING 10  
END 10'-15'  
START 15'-20'

BOREING 10  
START 10'-15'

NX-NQ DIVIDER

BORING, 13

END 28'-31'

BORING, 13

START 28'-31'



BOEING 7  
END 14-20

BOEING 7  
END 10-14  
START 14-20

BOEING 7  
START 10-14



BOEING 8  
START  
12'-13'  
→

BOEING 8  
END 12-13  
START 13-18  
→

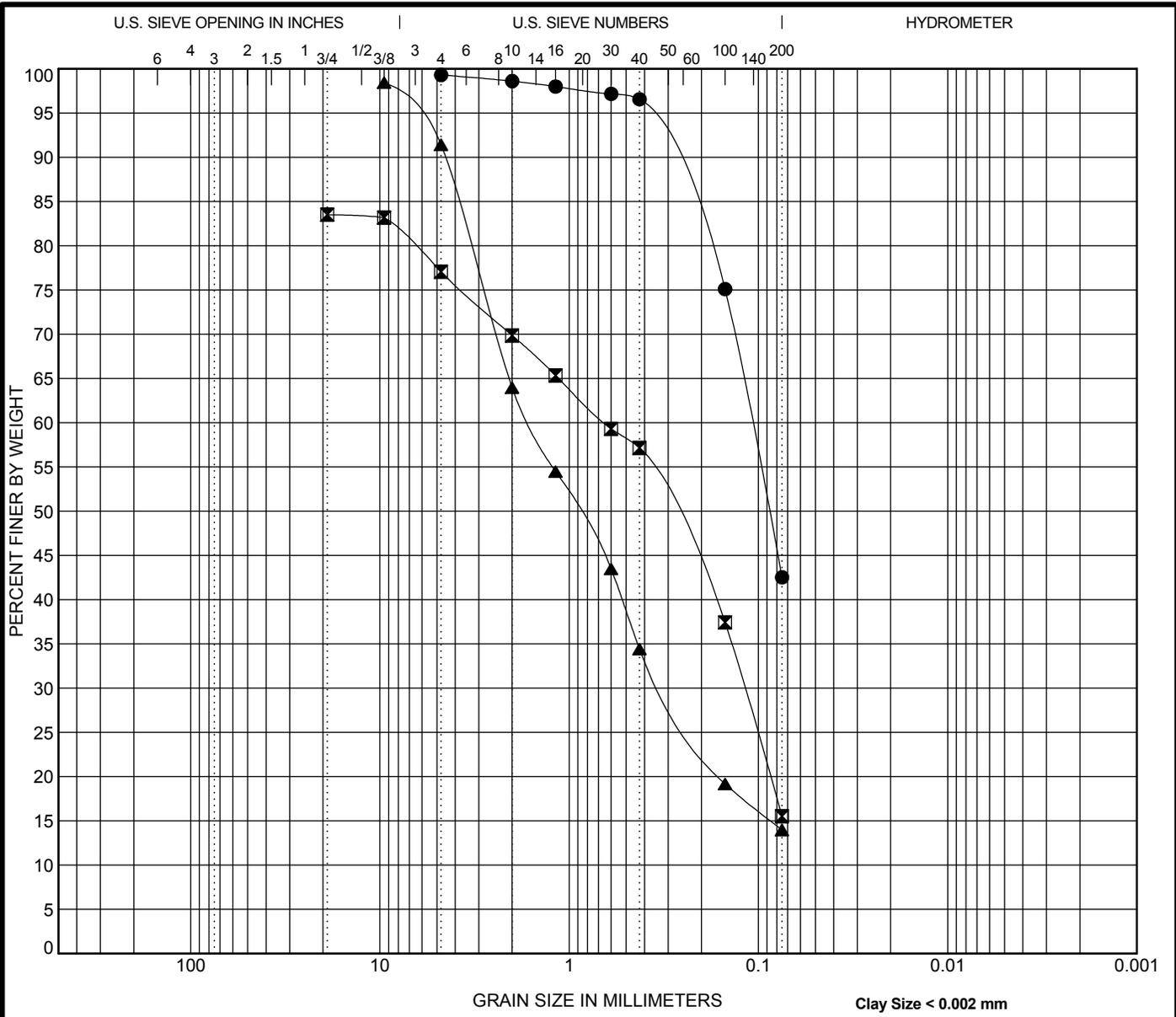
BOEING 8  
END 13-18  
START 18-23  
→



BORING 9  
END 46-45'

BORING 9  
END 35-40  
START 46-45  
→

BORING 9  
START 35-40  
→

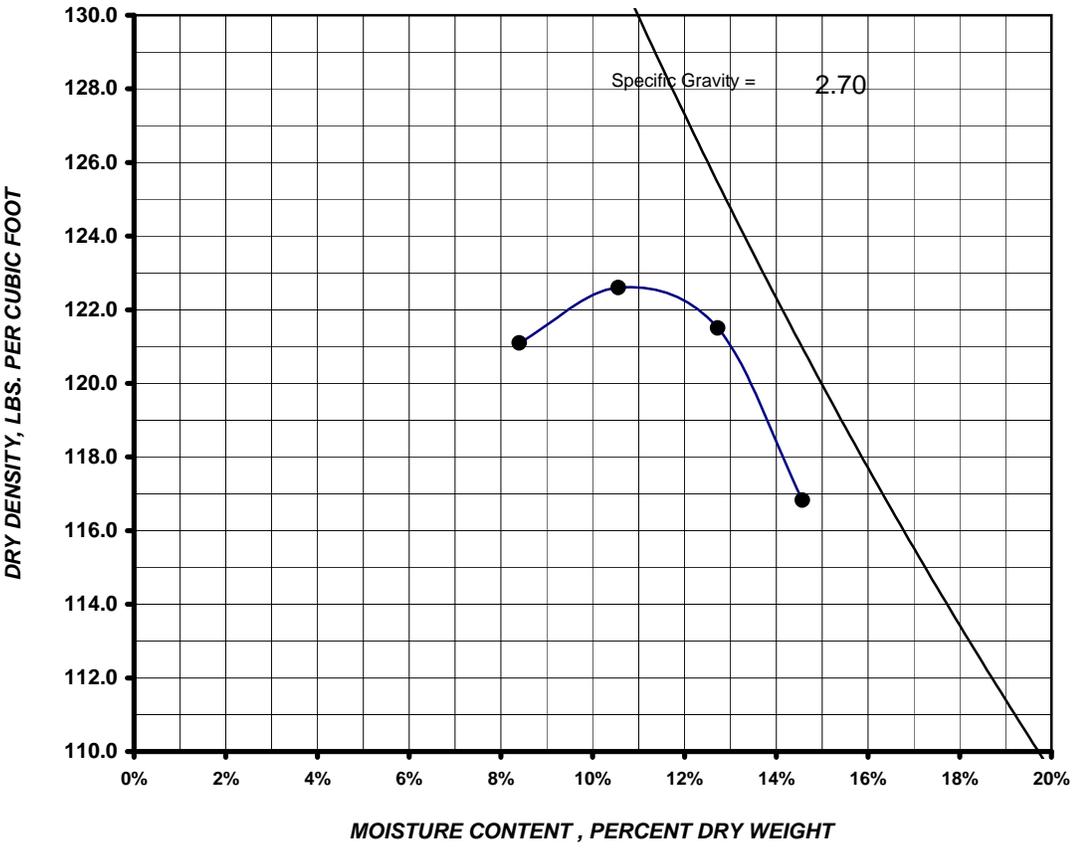


**REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL**

Tested For: MR. ENG-CHEW ANG  
 BLACK AND VEATCH  
 6300 S. SYRACUSE WAY  
 SUITE 300  
 CENTENNIAL, CO 80111

Project Name: HERMOSA WIND PROJECT  
 Sample Date: November 3, 2009  
 Project No. 532-95048  
 Report No. 0  
 Sample No. B10@0-5 ft

**Sample Source:** B10@0-5 ft  
**Sample Classification:** A-6 ( 3 ) CL Sandy Lean CLAY  
**General Description:**  
**Test Method:** ASTM D698 Method A  
**Rammer:** manual **Method of Preparation:** moist  
**Atterberg Limits (AASHTO T-89/T-90)**  
 LL: 29 PL: 18 PI: 11  
**Specific Gravity:** 2.70 (estimate)  
**Maximum Dry Density (pcf):** 122.6  
**Optimum Moisture Content (%):** 10.6



**Grain Size Analysis**  
 (ASTM C136 and/ or C117)

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	99
1/2"	96
3/8"	93
No. 4	86
No. 8	77
No. 10	76
No. 16	71
No. 30	66
No. 40	65
No. 50	63
No. 100	61
No. 200	56.1

Respectfully Submitted,  
**Professional Service Industries, Inc.**

Remarks:

Lab Tech: DN

KDUITSMAN Project Manager

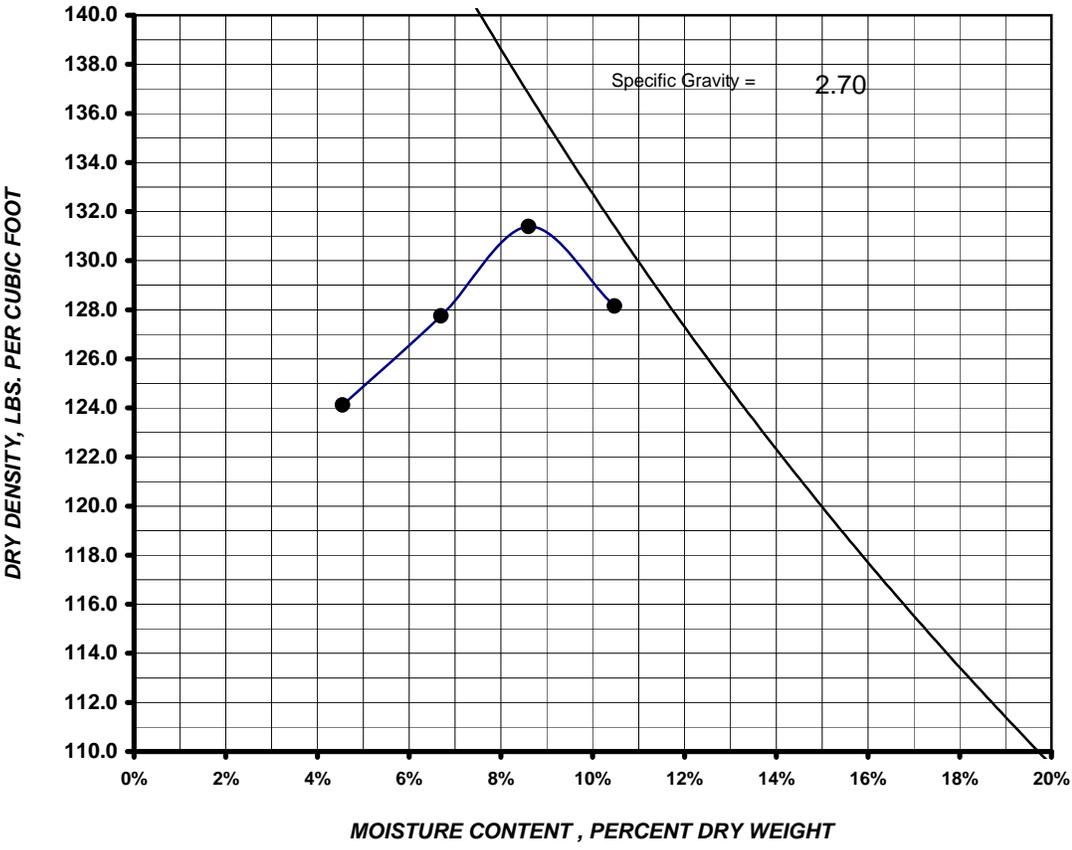
REPORTS MAY NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT WRITTEN PERMISSION BY PROFESSIONAL SERVICE INDUSTRIES, INC.

**REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL**

Tested For: MR. ENG-CHEW ANG  
BLACK AND VEATCH  
6300 S. SYRACUSE WAY  
SUITE 300  
CENTENNIAL, CO 80111

Project Name: HERMOSA WIND PROJECT  
Sample Date: November 3, 2009  
Project No. 532-95048  
Report No. 0  
Sample No. B13@0-5 ft

**Sample Source:** B13@0-5 ft  
**Sample Classification:** A-1-b ( 0 ) SP-SM Poorly graded SAND with Silt and Gravel  
**General Description:**  
**Test Method:** ASTM D698 Method B  
**Rammer:** manual **Method of Preparation:** moist  
**Atterberg Limits (AASHTO T-89/T-90)**  
LL: NL PL: NP PI: NP  
**Specific Gravity:** 2.70 (estimate)  
**Maximum Dry Density (pcf):** 131.4  
**Optimum Moisture Content (%):** 8.6



**Grain Size Analysis**  
(ASTM C136 and/ or C117)

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
1/2"	100
3/8"	98
No. 4	76
No. 8	55
No. 10	52
No. 16	42
No. 30	32
No. 40	27
No. 50	23
No. 100	16
No. 200	10.7

Respectfully Submitted,  
**Professional Service Industries, Inc.**

Remarks:

Lab Tech: DN

KDUITSMAN

Project Manager

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**REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL**

Tested For: MR. ENG-CHEW ANG  
 BLACK AND VEATCH  
 6300 S. SYRACUSE WAY  
 SUITE 300  
 CENTENNIAL, CO 80111

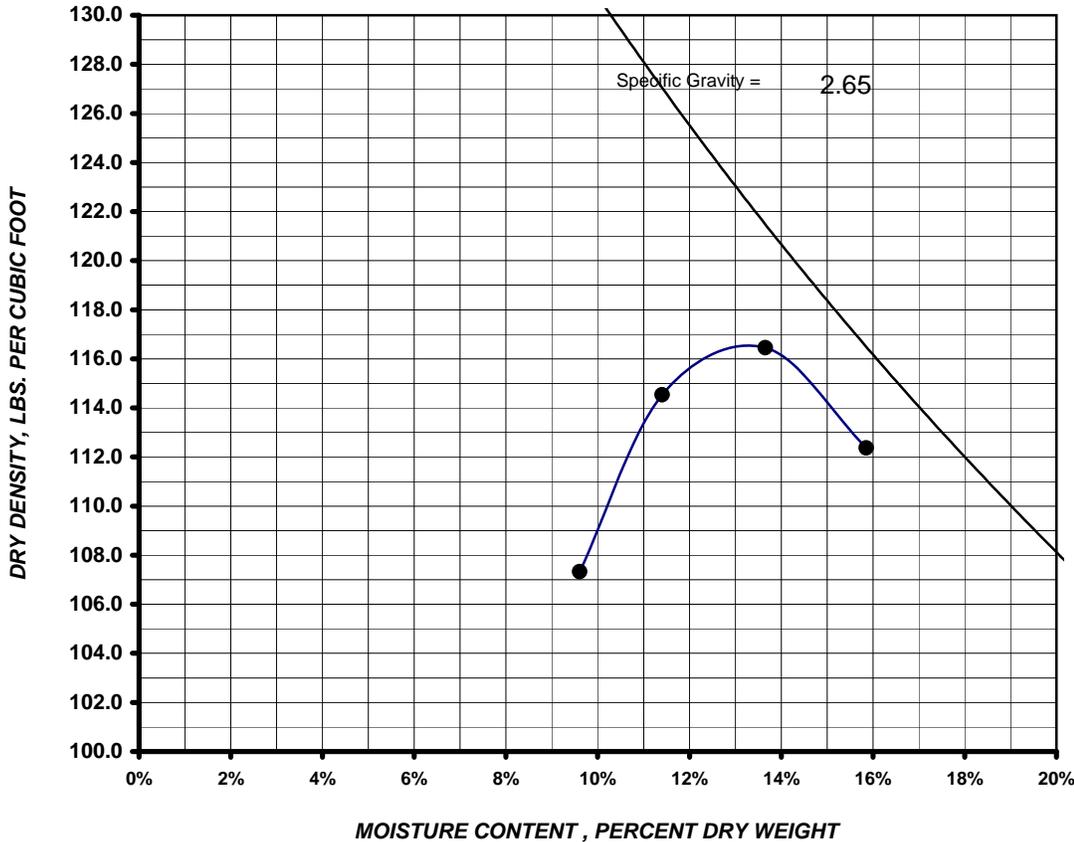
Project Name: HERMOSA WIND PROJECT  
 Sample Date: November 3, 2009  
 Project No. 532-95048  
 Report No. 0  
 Sample No. B7@0-5 ft

**Sample Source:** B7@0-5 ft  
**Sample Classification:** A-4 ( 1 ) SC Clayey SAND  
**General Description:**  
**Test Method:** ASTM D698 Method A  
**Rammer:** manual **Method of Preparation:** moist  
**Atterberg Limits (AASHTO T-89/T-90)**  
 LL: 23 PL: 13 PI: 10  
**Specific Gravity:** 2.65 (estimate)  
**Maximum Dry Density (pcf):** 116.8  
**Optimum Moisture Content (%):** 13.2

**Grain Size Analysis**

(ASTM C136 and/ or C117)

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
1/2"	99
3/8"	99
No. 4	93
No. 8	90
No. 10	89
No. 16	87
No. 30	84
No. 40	82
No. 50	80
No. 100	64
No. 200	42.8



Respectfully Submitted,  
**Professional Service Industries, Inc.**

Remarks:

Lab Tech: DN

KDUITSMAN

Project Manager

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**REPORT OF MOISTURE DENSITY RELATIONSHIP OF SOIL**

Tested For: MR. ENG-CHEW ANG  
 BLACK AND VEATCH  
 6300 S. SYRACUSE WAY  
 SUITE 300  
 CENTENNIAL, CO 80111

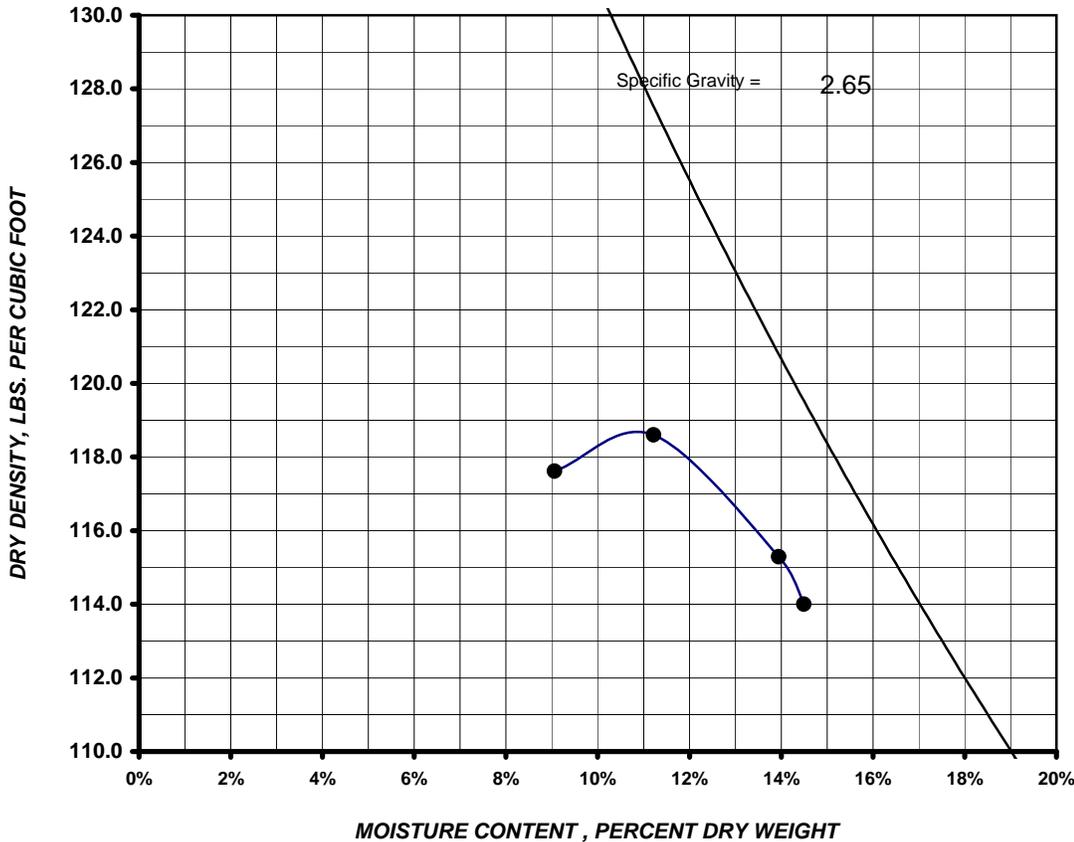
Project Name: HERMOSA WIND PROJECT  
 Sample Date: November 2, 2009  
 Project No. 532-95048  
 Report No. 0  
 Sample No. B8@0-5 ft

**Sample Source:** B8@0-5 ft  
**Sample Classification:** A-2-6 ( 0 ) SC Clayey SAND  
**General Description:**  
**Test Method:** ASTM D698 Method A  
**Rammer:** manual **Method of Preparation:** moist  
**Atterberg Limits (AASHTO T-89/T-90)**  
 LL: 37 PL: 16 PI: 21  
**Specific Gravity:** 2.65 (estimate)  
**Maximum Dry Density (pcf):** 118.6  
**Optimum Moisture Content (%):** 11.2

**Grain Size Analysis**

(ASTM C136 and/ or C117)

Sieve Size	Percent Passing
3"	100
1 1/2"	100
3/4"	100
1/2"	99
3/8"	98
No. 4	94
No. 8	89
No. 10	87
No. 16	76
No. 30	58
No. 40	50
No. 50	44
No. 100	35
No. 200	25.3



Respectfully Submitted,  
**Professional Service Industries, Inc.**

Remarks:

Lab Tech: DN

KDUITSMAN Project Manager

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## California Bearing Ratio Worksheet (ASTM D1883-07)

Project: Hermosa Wind Project, Wyoming

Job Number: 531-95048

Date: December 17, 2009

Location: B13 @ 0-5 ft.

Sample Number: B13@0-5 ft

Tech.: DJO

Sample Description: Poorly Graded Sand with Silt and Gravel (SP-SM)

Method Used for Preparation: D698

Condition of Sample: Soaked 96 hours

Dry Density of Sample as Compacted (before soaking): 126.4 pcf (96.2% of Maximum Dry Density)

Water Content

As Compacted: 6.5%

Top 1-inch after soaking: 11%

Swell: 0%

**CBR: 29% (at 0.100 inch penetration)**

Surcharge: 10 lbs.



## California Bearing Ratio Worksheet (ASTM D1883-07)

Project: Hermosa Wind Project, Wyoming

Job Number: 531-95048

Date: December 17, 2009

Location: B8 @ 0-5 ft.

Sample Number: B8@0-5 ft

Tech.: DJO

Sample Description: Clayey Sand (SC)

Method Used for Preparation: D698

Condition of Sample: Soaked 96 hours

Dry Density of Sample as Compacted (before soaking): 114.4 pcf (96.5% of Maximum Dry Density)

Water Content

As Compacted: 14%

Top 1-inch after soaking: 16%

Swell: 0%

**CBR: 22% (at 0.100 inch penetration)**

Surcharge: 10 lbs.



**Report Number**

09-321-0231

Page: 1 of 2



# A&L Analytical Laboratories, Inc.

2790 Whitten Rd. Memphis, TN 38133 • Phone (901) 213-2400 • Fax (901) 213-2440

**Account Number**

02299

**Send To:** PROFESSIONAL SERVICES

MATT SATTERFIELD

451 EAST 124TH AVE

THORNTON , CO 80241

**Project :** Hermosa Wind Project

Project # 535-95048

**Purchase Order :****Report Date :** 11/30/2009**Date Received :** 11/17/2009

## REPORT OF ANALYSIS

**Date Sampled :**

Lab Number: 88047

Sample Id : B8 @ 2 1/2' to 4'

<b>Analysis</b>	<b>Result</b>	<b>Quantitation Limit</b>	<b>Method</b>	<b>Date and Time Test Started</b>	<b>Analyst</b>
Chloride , mg/Kg	<9.40	9.40	SW-9056	11/23/2009 08:36	KS
pH , s.u.	9.1		SW-9045C	11/25/2009 10:25	LF

**Method Reference:**

Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100)

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

**Comments:**

Jimmy R. Ferguson, Assistant Technical Director

Sample results are reported 'as received' and are not moisture corrected unless noted.

**Report Number**

09-321-0231

**Page:** 2 of 2

# A&L Analytical Laboratories, Inc.

2790 Whitten Rd. Memphis, TN 38133 • Phone (901) 213-2400 • Fax (901) 213-2440

**Account Number**

02299

**Send To:** PROFESSIONAL SERVICES

MATT SATTERFIELD

451 EAST 124TH AVE

THORNTON , CO 80241

**Project :** Hermosa Wind Project

Project # 535-95048

**Purchase Order :****Report Date :** 11/30/2009**Date Received :** 11/17/2009

## REPORT OF ANALYSIS

**Date Sampled :**

Lab Number: 88048

Sample Id : B10 @ 2 1/2' to 4'

<b>Analysis</b>	<b>Result</b>	<b>Quantitation Limit</b>	<b>Method</b>	<b>Date and Time Test Started</b>	<b>Analyst</b>
Chloride , mg/Kg	<9.36	9.36	SW-9056	11/23/2009 08:36	KS
pH , s.u.	8.7		SW-9045C	11/25/2009 10:25	LF

**Method Reference:**

Methods for the Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100)

USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision

**Comments:**

A handwritten signature in black ink, appearing to read "Jimmy R. Ferguson".

Jimmy R. Ferguson, Assistant Technical Director

Sample results are reported 'as received' and are not moisture corrected unless noted.



# GeothermUSA

<http://www.geotherm.net>

6354 Clark Ave.  
Dublin, CA 94568  
Tel: 925-999-9232  
Fax: 925-999-8837  
[info@geothermusa.com](mailto:info@geothermusa.com)

December 1, 2009

**Professional Services Inc**  
451 East 124<sup>th</sup> Ave  
Thornton, CO 80241  
**Attn: Matt Satterfield**

**Re: Thermal Analysis of Native Soil Samples**  
**Hermosa Wind, Project # 535-95048**

The following is the report of thermal dryout characterization tests conducted on the two (2) native soil samples for the referenced project received at our laboratory. These were bulk samples taken in plastic bags.

## **Thermal Resistivity Tests:**

For thermal dryout characterization, the samples were re-compacted at the 'in-situ' moisture contents and at 80% of standard Proctor density. A series of measurements were made in stages, with moisture contents ranging from moist to the totally dry condition. The thermal dryout curves are presented in **Figure 1**.

## **Sample ID, Description, Moisture Content, Dry Density and Thermal Resistivity**

Sample ID	Visual Description	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (pcf)
		Wet	Dry		
B-7 @ 0' – 5'	Red clayey SAND	177	310	7.9	93
B-10 @ 0' – 5'	Red sandy lean CLAY	163	297	6.6	99

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**Comments:**

The thermal characteristic depicted in the dryout curves apply for the soil samples at the test density.

Please contact us if you or your supplier has any questions or if we can be of further assistance.

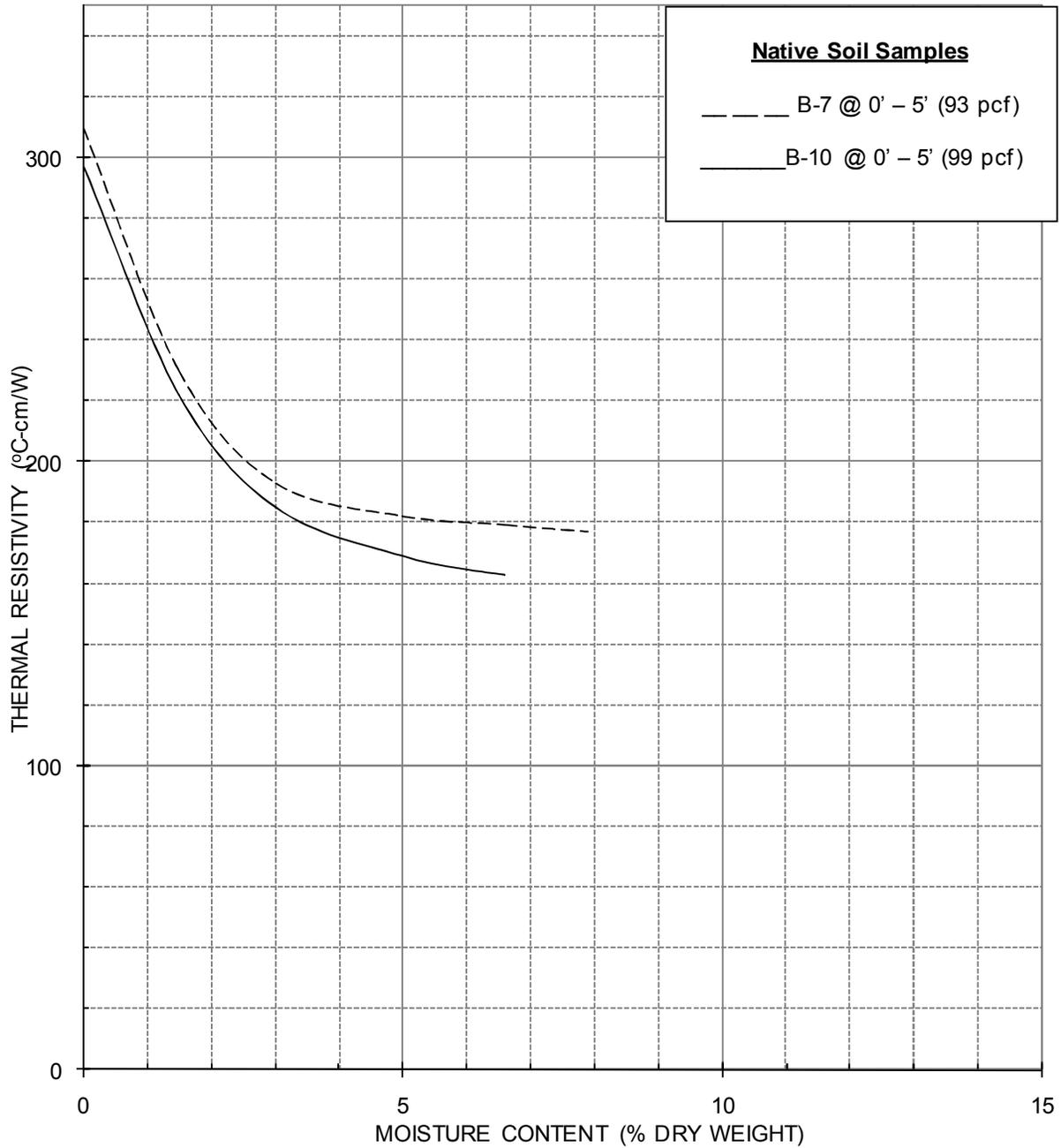
Geotherm USA

Geeta Parmar

**Please Note: All samples will be disposed of 5 days after date of report.**



### THERMAL DRYOUT CURVE



**Professional Services Inc**  
**Thermal Analysis of Native Soil Samples**  
**Hermosa Wind, Project # 535-95048**

Shell WindEnergy Inc.  
Mr. Nicholas W. Burkhead

B&V Project 163577  
January 15, 2010

Attachment C - CRA Cultural Resource Report



# CLASS III CULTURAL RESOURCE INVENTORY OF THE HERMOSA GEOTECHNICAL BORE HOLES 2 PROJECT, ALBANY COUNTY, WYOMING

*For Official Use Only: Disclosures of site locations prohibited (43 CFR 7.18)*



by  
S. Tosh McKetta  
&  
Weston Bacon-Schulte, RPA

---

Prepared for



**BLACK & VEATCH**

and



Prepared by



Lexington, KY | Hurricane, WV  
Berlin Heights, OH | Evansville, IN | Mt. Vernon, IL  
Longmont, CO | Sheridan, WY

# **CLASS III CULTURAL RESOURCE INVENTORY OF THE HERMOSA GEOTECHNICAL BORE HOLES 2 PROJECT, ALBANY COUNTY, WYOMING**

S. Tosh McKetta  
And  
Weston Bacon-Schulte, RPA

*Prepared for*

Black & Veatch Corporation  
11401 Lamar Ave.  
Overland Park, KS 66211  
Office (913) 458-2068  
Fax: 913-458-2934

And

Shell WindEnergy Inc.  
910 Louisiana, Room 502C  
Houston TX 77002  
Office: (713) 241-3768  
Fax: (713) 241-5541

*Prepared by*

Cultural Resource Analysts, Inc.  
421 21st Avenue, Suite 8  
Longmont, CO 80501  
Office: (303) 772-8881  
Fax: (303) 772-8892  
CRA Project No.: C09B003

---

Ted Hoefler III, RPA  
Principal Investigator

December 1, 2009

Lead Agency  
Wyoming State Historic Preservation Office  
Barrett Building 3rd Floor  
2301 Central Avenue  
Cheyenne, WY 82002  
Phone: (307) 777-7697  
Fax: (307) 777-6421

# EXECUTIVE SUMMARY

Cultural Resource Analysts, Inc., was sub-contracted by Black and Veatch for Shell WindEnergy Inc. to conduct a Class III cultural resource inventory and monitoring for seven geotechnical bore holes associated with the Hermosa Wind Project in Albany County, Wyoming. The project is located on private and Wyoming state lands. During the course of this project, no previously recorded cultural resources were impacted, and no new cultural resources were recorded.

# TABLE OF CONTENTS

EXECUTIVE SUMMARY .....	i
LIST OF FIGURES .....	iii
MANAGEMENT INFORMATION FORM.....	v
I. INTRODUCTION .....	1
II. ENVIRONMENT .....	1
III. CULTURE HISTORY AND PREVIOUS WORK .....	6
IV. METHODS.....	9
V. RESULTS .....	10
VI. SUMMARY AND CONCLUSIONS.....	15
REFERENCES CITED .....	15
APPENDIX A. FILE SEARCH RESULTS .....	17

## LIST OF FIGURES

Figure 1. General Project Area Location Map. ....	2
Figure 2. 1:24,000 Scale map indicating the location of geotechnical bore holes B7 through B10. ....	3
Figure 3. 1:24,000 Scale map indicating the location of geotechnical bore holes B11 and B13. ....	4
Figure 4. 1:24,000 Scale map indicating the location of geotechnical bore holes B12. ....	5
Figure 5. General area overview photograph. Taken near bore B11 in Township 12N, Range 73W.....	6
Figure 6. Showing drilling equipment and its minimal impact. Photo taken near B7 in Township 13N.....	9
Figure 7. Overview of B7, facing east. ....	10
Figure 8. Overview of B8, facing northwest. ....	11
Figure 9. Overview of B9, facing south. ....	12
Figure 10. Overview of B10, facing northwest. ....	12
Figure 11. Overview of B11, facing northwest. ....	13
Figure 12. Overview of B12, facing northwest. ....	14
Figure 13. Overview of B13, facing northeast.....	14



# I. INTRODUCTION

Cultural Resource Analysts, Inc. (CRA), was sub-contracted by Black and Veatch for Shell WindEnergy Inc. to conduct a Class III cultural resource inventory and monitoring for six geotechnical bore holes in Albany County, Wyoming. The project is located approximately 4 mi southwest of Tie Siding, Wyoming (Figure 1).

This inventory complies with the National Historic Preservation Act (16 USC 470) and the National Environmental Policy Act (42 USC 4321). This report complies with the requirements and protocols for Class III cultural resources inventories provided by the Wyoming State Historic Preservation Officer (SHPO).

## Project Description

This project is a follow up to the original Hermosa Geotechnical Bores Holes Project, conducted by CRA in July of 2009. The original project included inventory and monitoring for six geotechnical bore locations (B1 through B6). The current project added inventory and monitoring for seven additional geotechnical bore locations (B7 through B13). Due to access issues caused by inclement weather, no work was conducted at bore location B12. The holes are 8 inches in diameter. The disturbance was limited to the actual drilling and sampling of each hole, and disturbed only the area directly around the drill point. CRA inventoried 30 acres including at least 2.5 acres around each bore site and a 60 m wide access corridor from existing roads (Figures 2–4). The project is located in Township 13 North, Range 73 West, Sections 25, 26, 28, and 35; Township 12 North, Range 73 West, Section 13; Township 12 North, Range 72 West, Section 18; and Township 12 North, Range 73 West, Section 30; Albany County, Wyoming. The purpose of this project is to provide cultural resources support to the collection of geotechnical data to assist with the engineering and planning for the future Hermosa Wind Project energy installation. This was accomplished by inventorying for cultural

resources in the project area, monitoring drilling, and relocating any geotechnical bore holes as needed to avoid cultural resources.

Fieldwork was conducted on October 26 and November 2–5, 2009, by S. Tosh McKetta under an Office of State Lands and Investments Permit issued to CRA on July 20, 2009. The CRA project number is C09B003.

# II. ENVIRONMENT

The project area lies in the southern portion of the Laramie Basin Physiographic Province (Love and Christiansen 1985), approximately 18.7 mi south of Laramie, Wyoming, and 12.4 mi northeast of Eaton Reservoir, Colorado. It is located on a low, flat area between U.S. 287 to the northeast and a series of higher and steeper ridges to the southwest (Figure 5). The topography of the project area consists of gentle north and west facing slopes with interspersed drainages. The main drainage in the area is Willow Creek, located within the project area.

The surface geology of the north half of the area consists primarily of Permian Age sedimentary deposits of the Casper Formation generally consisting of thick bedded sandstone with some claystone, mudstone, and conglomerate underlain by interbedded sandstone and limestone. The southern half of the project area is dominated by Middle Proterozoic Sherman Granite and Early Proterozoic metasedimentary formations. (Love and Christiansen 1985). The elevation of the project area ranges from 7,500 ft to 8,100 ft above mean sea level (AMSL).

The project area vegetation is currently in use as pastureland. It is primarily shortgrass prairie community. Dominant species include threadleaf sedge (*Carex filifolia*), blue grama grass (*Bouteloua gracilis*), buffalo grass (*Buchloë dactyloides*), slender wheatgrass (*Elymus trachycaulus*), and western wheat grass (*Elymus smithii*), with a number of common grassland forbs. Sagebrush (*Artemisia tridentate*) occurs as scattered individuals throughout the grassland (Knight 1994).

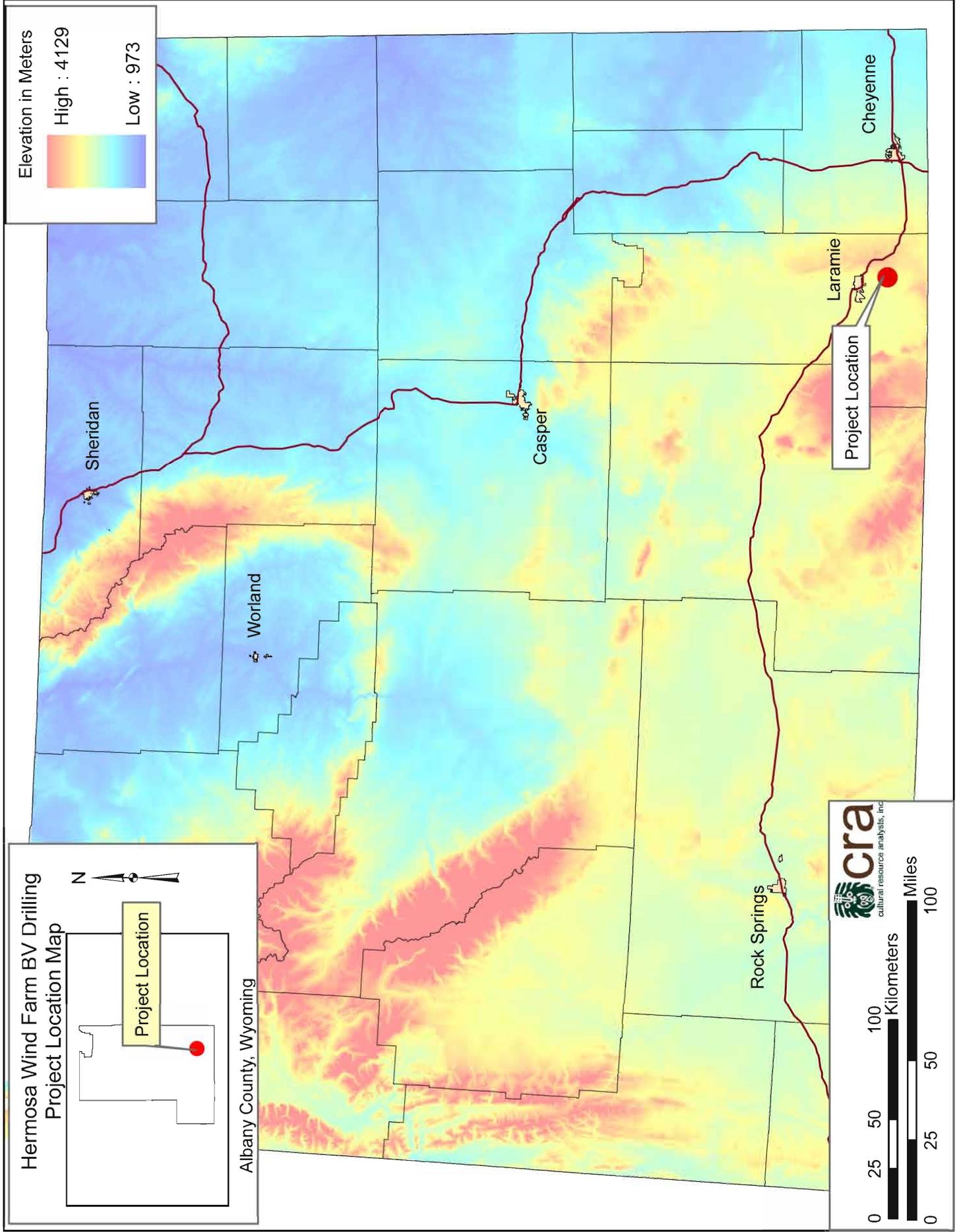


Figure 1. General project area location map.

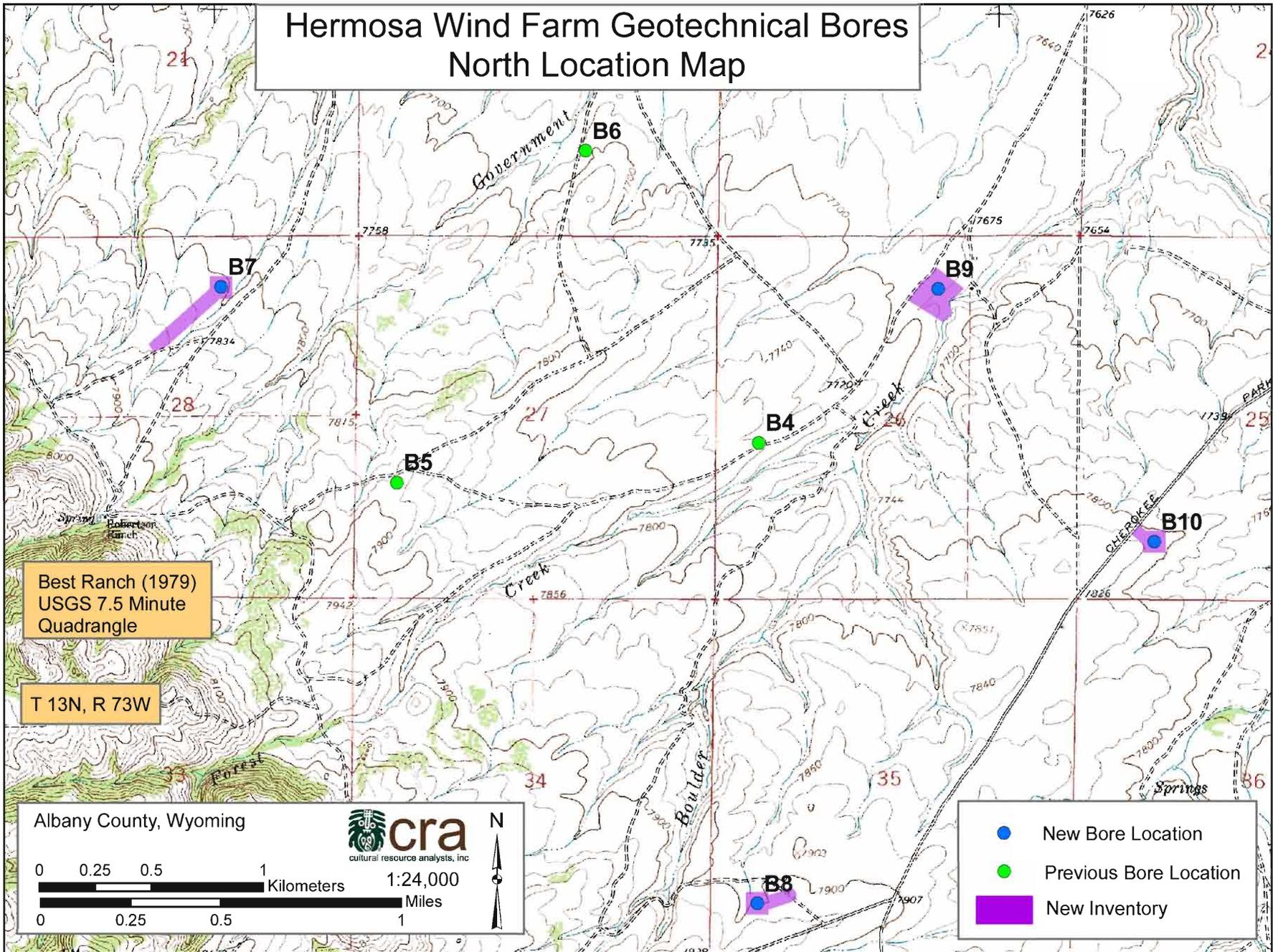


Figure 2. 1:24,000 Scale map indicating the location of geotechnical bore holes B7 through B10.

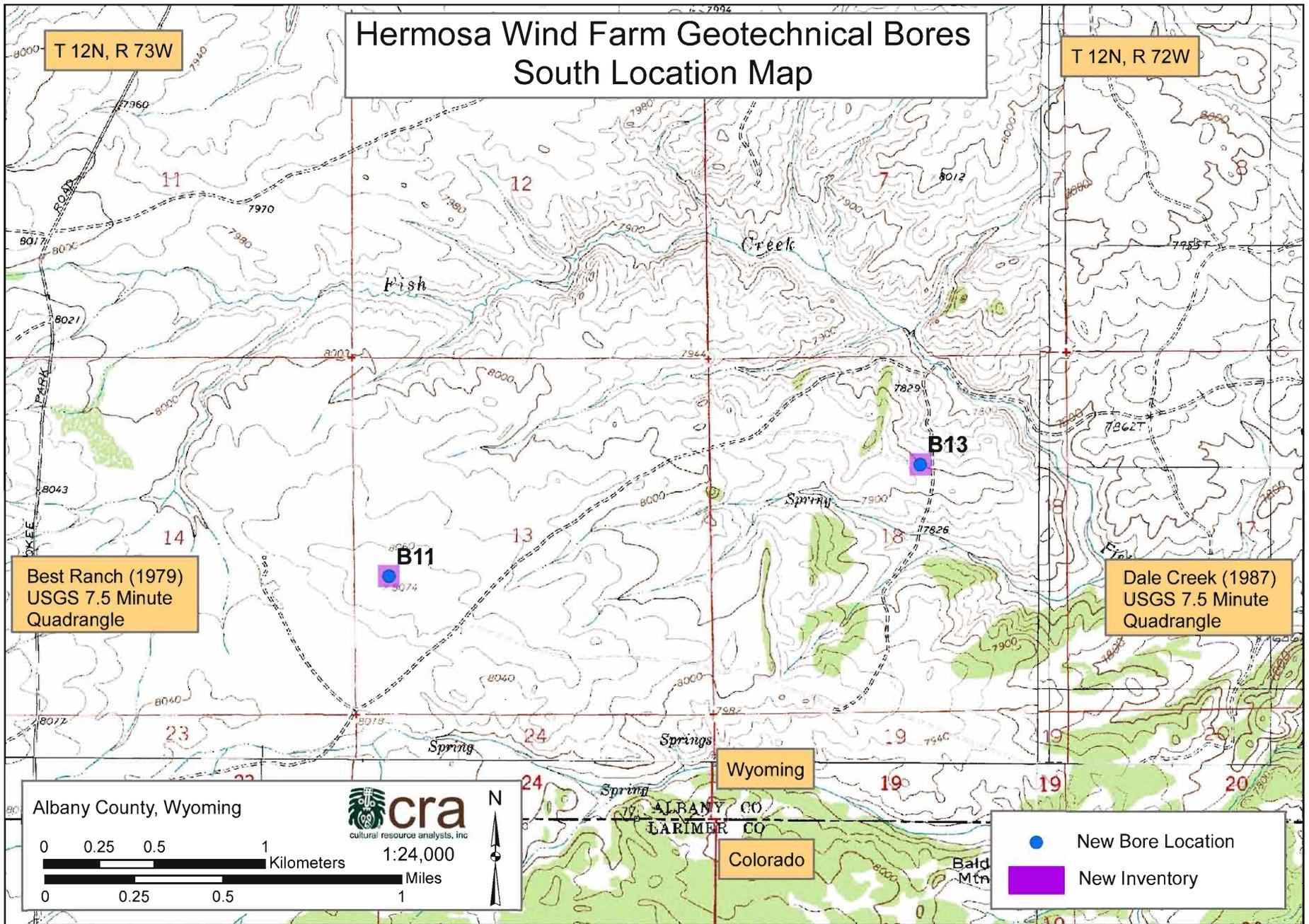


Figure 3. 1:24,000 Scale map indicating the location of geotechnical bore holes B11 and B13.

# Hermosa Wind Farm Geotechnical Bores East Location Map

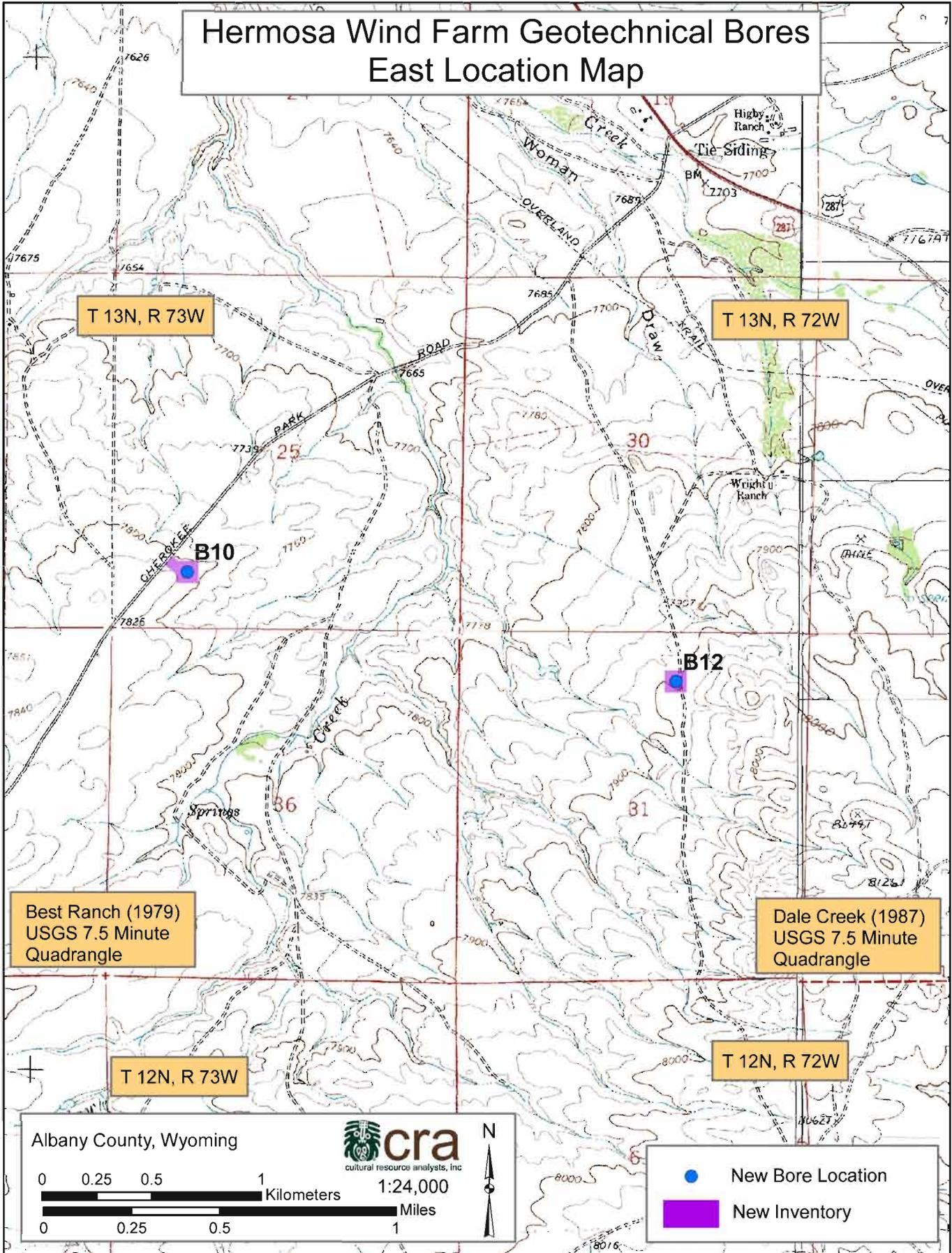


Figure 4. 1:24,000 Scale map indicating the location of geotechnical bore holes B10 and B12.



Figure 5. General area overview, taken near bore B11 in Township 12N, Range 73W, Section 13, facing northeast.

The project area is home to a variety of fauna, many of which would have been utilized by prehistoric populations. American pronghorn (*Antilocapra americana*) and Elk (*Cervus canadensis*) are prevalent in the project area, mule deer (*Odocoileus hemionus*) are also present but in smaller numbers. There are many bird species present including golden eagles (*Aquila chrysaetos*), horned larks (*Eremophila alpestris*), western meadowlarks (*Sturnella neglecta*), and mourning doves (*Zenaidura macroura*). Small body mammals include black-tailed prairie dogs (*Cynomys ludovicianus*), desert cottontails (*Sylvilagus audubonii*), white-tailed jack rabbits (*Lepus townsendii*), and black-tailed jack rabbits (*Lepus californicus*). There are also several predatory species within the project area including American badgers (*Taxidea taxus*), red foxes (*Vulpes vulpes*) and coyotes (*Canis latrans*) (Knight 1994). Cattle (*Bos taurus*) are also prevalent.

### III. CULTURE HISTORY AND PREVIOUS WORK

#### File and Records Search

File and records searches were conducted with the Wyoming SHPO on October 21st and 23rd, 2009 (Appendix A). The only cultural resource report from the project area is the original Hermosa Geotechnical Bore Project conducted by CRA in July of 2009. No cultural resources were encountered during the project. There are no recorded sites, or isolated finds in any of the sections where the bore holes were drilled.

Only one previously recorded cultural resource was located within one mile of the bore locations. This site (48AB34), recorded in 1955 by Carling Malouf, is located in T13N, R73W, Section 36. This is a prehistoric site containing five stone circles, a jasper knife, and lithic debitage located on a southeast facing terrace. This site was not

reinvestigated because it is well outside of any area affected by the geotechnical boring.

## **Cultural Context**

### **Paleoindian Period**

The Paleoindian Period began in the Great Plains around 11,500 B.C. and extended to 6,400 B.C. In the early part of this period, the climate was cool and moist with alpine glaciation. By 7,500 B.C., a general warming trend is evident. The Paleoindians represent the first inhabitants of the North American continent beginning in the late Pleistocene. The first 2,000 years of this period encompass the Clovis, Goshen, and Folsom traditions. The dominant attributes of early Paleoindian assemblages are the use of lanceolate projectile points and the hunting of megafauna, including mammoth and extinct forms of bison, by highly mobile residential groups (Kelly and Todd 1988).

The later part of the Paleoindian period is best described by the Foothill-Mountain tradition. This tradition was developed by Frison (1992). In this tradition, later Paleoindian groups in the foothills and mountain ecological zones employed a different subsistence strategy than Plains-oriented bison-hunting Late Paleoindian groups. Settlement was more restricted and projectile point styles became more diverse and were often made of local materials (Frison 1992; Pitblado 1994, 2003). Bison were hunted, but so were many other game animals. Foothill-Mountain groups also exploited a wider range of plants than Plains-oriented groups.

### **Archaic Period**

The shift from the Paleoindian period to the Archaic period is marked by the change from stemmed and lanceolate points to side-notched varieties and a change in subsistence practices (Francis 1983:49; Frison 1991:79; Larson 1997). Frison (1991) breaks the Archaic into three periods: Early (8,000-4,000 BP), Middle (4,000-3,000 BP), and Late Plains Archaic (3,000-1,500 BP). There is

evidence of an increase in the use of floral resources and a decrease in the overall reliance on communal hunting and bison. This change could also be produced by a change in the temperature, reducing either the amount or the range of bison, necessitating a broader based subsistence pattern. Whatever the cause, there is a noticeable broadening in the resource base utilized through the Archaic period. This is supported by the gradual increase in ground stone tools, indicating plant processing, and the increasing use of smaller game and secondary resources. Stone circles, often called tipi rings, begin to appear in the archaeological record at this time. One stone circle site (48AB34) has been recorded near the project area. Stone circle sites continue to be a large part of the archaeological record in the area until the historic period. It is expected that additional cultural inventories in the area will encounter more stone circle sites. Also evident during the Archaic period was the use of house pits (Shields 1998).

### **Late Plains Prehistoric Period**

The transition between the Late Archaic and the Late Plains Prehistoric (1,500 BP–AD 1720) appears to represent an overlap of technological traditions complicated by the continuation of a hunting and gathering way of life (Frison et al. 1996:26). The Late Plains Prehistoric period was marked by a change in projectile points related to the adoption of the bow and arrow. There is evidence for some corner-notched dart points reducing in size for use with a bow (Frison 1991). The use of ceramics (Frison 1991:111) is another marker of the Late Plains Prehistoric period, though ceramics started to appear near the end of the Late Plains Archaic period (Frison 1991:116). The end of the Late Plains Prehistoric period is the result of contact with Euro-American material culture. The changes resulting from contact and the subsequent disease and dispossession affected settlement and subsistence patterns.

### **Protohistoric Period**

The Protohistoric Period, between AD 1720 and 1800, encompasses the time between

the arrival of Euro-American material culture and the arrival of the Euro-Americans. During this time, the area was utilized by a number of different groups the Arapaho, Comanche, Cheyenne, Crow, and Shoshoni Native American tribes. The introduction of the horse via the Spanish in the southwest (Ewers 1955) was likely one of the most significant cultural changes for the populations residing in this area (Frison 1991:122). Many aspects of life changed because of the horse. Subsistence was no longer limited to the needs of humans and finding a place where the horses would survive was a possible concern. Protohistoric sites are rare and characterized by trade goods including seed beads, glass trade beads, and metal projectile points. These goods are often found in burial contexts.

## Historic Period

French explorers were the first Europeans likely to have migrated into this area. By the time these trappers arrived in Wyoming, the local Native Americans had already acquired horses (Ewers 1955) and some European goods. The fur trade in Wyoming expanded after the early part of the eighteenth century, with a number of rendezvous occurring in southern Wyoming (Goetzmann 1966). After the fur trade era, some of the trappers became guides for the emigrant trails that sprang up throughout the area. The major two trails in this area are the Overland Trail and the North and South Branches of the Cherokee Trail. The South Cherokee Trail is the closest to the project area. The path of the Cherokee Trail in the area begins three mi north of Tie Siding and trends southwest towards Chimney Rock. The Overland Trail in this area follows the same general route as U.S. 287 (Whiteley 1999).

The function of these trails changed as the railroad worked its way westward across Wyoming in 1867 and 1868. The coming of the Union Pacific Railroad marked the beginning of intensive Euro-American movement into this area. Many towns were established along the route of the railroad, such as Laramie and Tie Siding. Many

railroads followed the routes of the old trails closely.

The town of Laramie, Wyoming, is located north of the project area, and is the home of the University of Wyoming. Laramie was founded in the 1800s as a stop along the Union Pacific Rail Road. There are many historic and modern activities that were, and are, taking place within the vicinity of the project area including alternative energy exploration, cattle grazing, agriculture, recreation, and hunting.

Agriculture has been, and still is, important in Wyoming as a whole and this area in particular, but the livestock industry brought only sparse settlement to Wyoming. The agricultural development of Wyoming's arable land was necessary to provide the impetus for population growth. In 1916 the Wyoming Board of Irrigation encouraged the use of dry farming to attract a new wave of homesteaders. Dry farming agricultural techniques increased production; however, it also severely undermined the system of small farm agriculture. The Stock Raising Homestead Act of 1916 allowed for patentees to enlarge their homestead tracts.

The agricultural and energy industries in the state suffered financially during the 1920s. The Depression in the 1930s would serve to further depress the economy. Over 100 banks had failed in Wyoming during the 1920s and 27 more failed during the Depression (Fraser 2006). Conditions were made worse by a severe and prolonged drought that began in 1926 and continued well into the 1930s. One of the first relief agencies established by the Roosevelt Administration was the Public Works Administration (PWA). Started in 1933 under the National Industrial Recovery Act, the PWA allocated \$400 million in funds for specific projects that were designed solely to put people to work at predetermined wage rates (Fraser 2006).

After World War II, both the American economy and its population boomed. The Eisenhower administration began the construction of the interstate highway system. Modern gas and oil drilling and exploitation became very economically important in Wyoming. As times change, there is an increasing amount of alternative energy development, mainly wind farms, occurring in the area. Cattle continue to be part of the economic system in the area and are present in the project area.

## IV. METHODS

The intent of this inventory was to locate, record, and evaluate the National Register of Historic Places (NRHP) eligibility of all cultural resources in the Project area. The guidelines set forth by the Wyoming SHPO were followed to ensure that all applicable

federal and state standards for cultural resource investigations were met.

### Class III Methods

An intensive pedestrian Class III cultural resource survey was conducted over 100 percent of the project area encompassing 30 acres of private and Wyoming state land. An area of at least 2.5 acres was inventoried at each location and any necessary access was inventoried using a 60 m wide corridor from the nearest existing road. The drilling of the geotechnical bore holes was monitored by an on-site archaeologist. All seven bore locations were inventoried on October 26, 2009. Monitoring was conducted on the six accessible bore holes between November 2–5, 2009. There was little disturbance to the areas bored because the drill rig is designed to have little impact on the bored location (Figure 6).

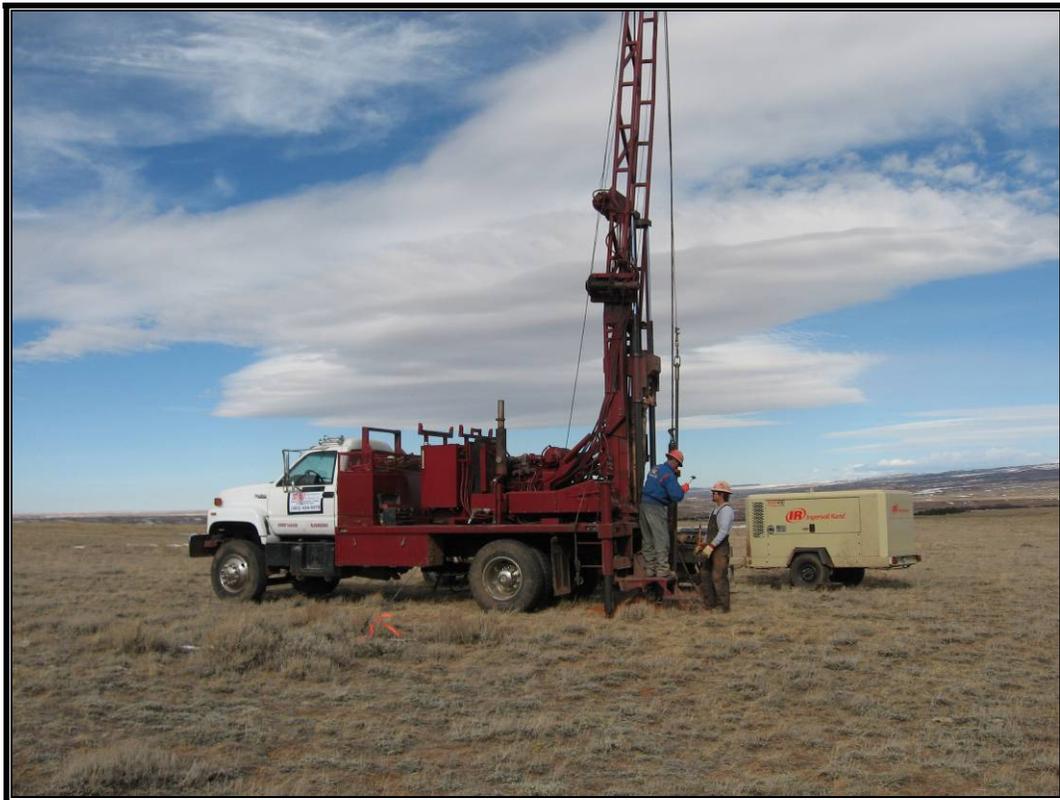


Figure 6. Showing drilling equipment and its minimal impact. Photo taken near B7 in Township 13N, Range 73W, Section 28.

No weather conditions or access issues impeded the inventory, but monitoring occurred less than a week after a snow storm. Although each bore location was snow free, during monitoring drifts covered some low elevation areas and prevented access to B12. The geotechnical bore holes, labeled B7 through B12, are in Township 13 North, Range 73 West, Sections 25 (B10), 26 (B9), 28 (B7), and 35 (B8); Township 13 North, Range 72 West, Section 31 (B12); Township 12 North, Range 72 West, Section 18 (B13); Township 12 North, Range 73 West, Section 13 (B11).

The geotechnical bore holes were outlined and drilled by Professional Service Industries, Inc. (PSI). The project area is crossed by ranch two-track roads and barbed wire fences. The survey blocks were grazed pastureland and ground visibility was good in all areas. Global Positioning System (GPS) technology was utilized on the project to locate and record each bore hole. CRA uses Trimble GeoXT handheld GPS units. These units have sub-meter accuracy from the true horizontal position after differential correction.

## V. RESULTS

During the course of this inventory no cultural resources were recorded or reinvestigated. Each bore location will be addressed individually in the order that bore numbers were assigned.

### B7

This bore hole is located at approximately 7,800 ft AMSL on a gently sloping area with a northeast aspect (Figure 7). Just to the south of the bore location is a small intermittent drainage that made access impossible for the drill rig. This led to the inventory of a 375-x-60-m strip to the nearest allowable access road. No cultural resources were located in this additional inventory area. The sediments at this location were gravel filled sand 10 ft deep. These sediments lay on top of sandstone bedrock. The vegetation at this location shows evidence of grazing and has some low grasses and interspersed forbs across it. The nearest permanent water is Government Creek, 0.3 mi to the southwest.



Figure 7. Overview of B7, facing east.

## B8

This bore hole is located at approximately 7,900 ft AMSL on a small rise in the center of a wide rolling plain (Figure 8). Vegetation here consisted of low grasses and forbs with conifers visible in the drainage to the northwest. The sediments at the location are a gravel filled sandy loam is 8 ft deep. Underneath the sediments is a friable sandstone bedrock. The nearest permanent water is Boulder Creek, located 0.6 mi to the north.

## B9

This bore hole is located at approximately 7,720 ft AMSL on a flat overlooking Boulder Creek less than 0.1 mi to the south (Figure 9). The sediments here were a packed residual granitic gravel 35 ft deep. These overlaid an orthoclase-rich granitic bedrock. Proximity to water and lack of slope made this landform a higher probability area for cultural resources

than any of the other bore locations. Because of this, the inventory area was extended for this location. No cultural resources were encountered despite the larger inventory area. Vegetation at the location consisted of low grasses and forbs.

## B10

This bore hole is located at approximately 7,810 ft AMSL located on a rounded rise that slopes to the east (Figure 10). The sediments at this location consisted of 10 ft of compacted sandy clay with gravel in it. This high concentration of clay was not seen anywhere else in the project area. The underlying bedrock was sandstone and was easily cored. There was very little vegetation at this site. This could be due to the group of pronghorn that we saw near the location on several occasions. There was almost no grass left and only intermittent forbs growing in the bore area. The nearest permanent water is Willow Creek, 0.5 mi to the southeast.



Figure 8. Overview of B8, facing northwest.



Figure 9. Overview of B9, facing south.



Figure 10. Overview of B10, facing northwest.

## B11

This bore hole is located at approximately 8,070 ft AMSL on the center of a small rise. The sediments were residual and sandstone derived (Figure 11). These sediments were less than 5 ft deep. These sediments overlaid a highly fractured sandstone bedrock that no core sample could be recovered from. Vegetation consists of highly grazed low grasses with some forbs. The nearest permanent water is an unnamed spring located 0.75 mi to the southeast.

## B12

This unused bore location is located at approximately 7,900 ft AMSL on a flat to the west of a significant unnamed ridge with abundant rock outcropping (Figure 12). This bore location was inventoried, but not drilled since remnant snow drifts from the previous weeks storms precluded access. Vegetation at

the locale is sparse and shows evidence of grazing. Only low grasses and small forbs were visible. Visible sediments were loamy and contained angular gravel. The nearest permanent water is Willow Creek, 0.76 mi west.

## B13

This bore hole is located at approximately 7,900 ft AMSL on the north side of a small ridgeline above Fish Creek (Figure 13). The area has outcropping granitic rock to the east, southeast, and west. The vegetation is Low grasses and Forbs, with pine trees on the knolls to the east and west. The sediments are 27 ft deep in the bore location and overlay a very dense, orthoclase-rich granitic bedrock. Sediments are sandy and compacted with high concentrations of granitically derived gravel. The nearest permanent water is Fish Creek, 0.2 mi to the northeast.



Figure 11. Overview of B11, facing northwest.



**Figure 12. Overview of B12, facing northwest.**



**Figure 13. Overview of B13, facing northeast.**

## VI. SUMMARY AND CONCLUSIONS

No cultural resources were recorded in the project area. Grazing and previous cultivation activities have disturbed large areas of the open pastureland. The small size of this investigation limited the potential for encountering cultural resources. It is likely that cultural resources are in the vicinity and further work will require more intensive and inclusive cultural resource inventories.

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## **APPENDIX A. FILE SEARCH RESULTS**

# Wyoming SHPO File Search Results

Ted Hofer - CRAI  
 Cultural Resource Analysts, Inc.  
 421 21st Ave. Suite 8

*File Search* 25060 and 25076  
*Contractor's Project #:*

Longmont CO 80501-0000

**Results of file search for Project:** HERMOSA GEOTECHNICAL BORES  
*Date Requested:*10/21/2009, 10/23/2009

**Date Run:** 10/21/2009,  
 10/23/2009

File Search Results - PROJECTS							FILE	
SEARCH #							25060	+
<b>25076</b>								
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>72.0 W</b>	<b>section</b>	<b>18</b>		
No Projects are on record for T12 N, R72 W, Sec.18.								
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>14</b>		
No Projects are on record for T12 N, R73 W, Sec.14.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>72.0 W</b>	<b>section</b>	<b>31</b>		
No Projects are on record for T13 N, R72 W, Sec.31.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>26</b>		
No Projects are on record for T13 N, R73 W, Sec.26.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>28</b>		
No Projects are on record for T13 N, R73 W, Sec.28.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>34</b>		
No Projects are on record for T13 N, R73 W, Sec.34.								
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>13</b>		
No Projects are on record for T12 N, R73 W, Sec.13.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>25</b>		
No Projects are on record for T13 N, R73 W, Sec.25.								
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>35</b>		
No Projects are on record for T13 N, R73 W, Sec.35.								

File Search Results - SITES							FILE	
SEARCH #							25060	+
<b>25076</b>								
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>72.0 W</b>	<b>section</b>	<b>18</b>		
No sites are on record for T12 N, R72 W, Sec. 18.								
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>14</b>		
No sites are on record for T12 N, R73 W, Sec. 14.								

<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>72.0 W</b>	<b>section</b>	<b>31</b>
No sites are on record for T13 N, R72 W, Sec. 31.						
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>26</b>
No sites are on record for T13 N, R73 W, Sec. 26.						
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>28</b>
No sites are on record for T13 N, R73 W, Sec. 28.						
<b>Results of File Search for</b>	<b>township</b>	<b>12.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>13</b>
No sites are on record for T12 N, R73 W, Sec. 13.						
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>25</b>
No sites are on record for T13 N, R73 W, Sec. 25.						
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>35</b>
No sites are on record for T13 N, R73 W, Sec. 35.						
<b>Results of File Search for</b>	<b>township</b>	<b>13.0 N</b>	<b>range</b>	<b>73.0 W</b>	<b>section</b>	<b>34</b>
No sites are on record for T13 N, R73 W, Sec. 34.						

<b>File Search Results - ISOLATES</b>						<b>FILE</b>
<b>SEARCH # 25060 + 25076</b>						
<b>Results of File Search for</b>	<b>township</b>	<b>12 N</b>	<b>range</b>	<b>72 W</b>	<b>section</b>	<b>18</b>
No Isolates are on record for T12 N, R72 W, Sec. 18.						
<b>Results of File Search for</b>	<b>township</b>	<b>12 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>14</b>
No Isolates are on record for T12 N, R73 W, Sec. 14.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>72 W</b>	<b>section</b>	<b>31</b>
No Isolates are on record for T13 N, R72 W, Sec. 31.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>26</b>
No Isolates are on record for T13 N, R73 W, Sec. 26.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>28</b>
No Isolates are on record for T13 N, R73 W, Sec. 28.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>34</b>
No Isolates are on record for T13 N, R73 W, Sec. 34.						
<b>Results of File Search for</b>	<b>township</b>	<b>12 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>13</b>
No Isolates are on record for T12 N, R73 W, Sec. 13.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>25</b>
No Isolates are on record for T13 N, R73 W, Sec. 25.						
<b>Results of File Search for</b>	<b>township</b>	<b>13 N</b>	<b>range</b>	<b>73 W</b>	<b>section</b>	<b>35</b>
No Isolates are on record for T13 N, R73 W, Sec. 35.						

**APPENDIX P**  
**PHASE I ENVIRONMENTAL SITE ASSESSMENT**

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**Phase I Environmental Site  
Assessment for the Hermosa Wind  
Energy Project in  
Albany County, Wyoming**

**September 1, 2009**

**Prepared for:**

**Shell WindEnergy, Inc.**

**Prepared by:**

**ECOLOGY AND ENVIRONMENT, INC.**

1412 Main Street, Suite 1500  
Dallas, TX 75202

# Table of Contents

Section	Page
<b>Notice .....</b>	<b>1</b>
<b>1 1-1</b>	
<b>Introduction.....</b>	<b>1-1</b>
1.1 Purpose .....	1-2
1.2 Detailed Scope of Services .....	1-2
1.3 Abbreviated Site History .....	1-3
1.4 Reason for Performing the Phase 1 ESA.....	1-4
1.5 Limitations and Assumptions.....	1-4
<b>2 2-1</b>	
<b>Site Review.....</b>	<b>2-1</b>
2.1 Location and Ownership of Property.....	2-1
2.2 Site Designation .....	2-1
2.3 Current Use of the Property.....	2-1
2.4 Past Uses of the Property.....	2-2
2.5 Site and Vicinity Characteristics .....	2-2
2.6 Surrounding Property Uses.....	2-3
<b>3 3-1</b>	
<b>Records Review .....</b>	<b>3-1</b>
3.1 Standard Environmental Record Sources.....	3-1
3.1.1 Database Description.....	3-1
3.1.2 Database Search Results.....	3-2
3.2 Additional Environmental Record Sources.....	3-5
3.3 Local Record Sources.....	3-6
3.4 Physical Setting Sources.....	3-9
3.5 Fire Insurance Maps .....	3-9

**Table of Contents (cont.)**

<b>Section</b>	<b>Page</b>
3.6 User Provided Information .....	3-9
<b>4 4-1</b>	
<b>Site Reconnaissance .....</b>	<b>4-1</b>
4.1 Exterior Observations.....	4-1
4.2 Interior Observations .....	4-3
<b>5 5-1</b>	
<b>Conclusions .....</b>	<b>5-1</b>
<b>6 6-1</b>	
<b>References .....</b>	<b>6-1</b>
<b>7 7-1</b>	
<b>Signature and Qualifications of Environmental Professional</b>	
<b>Conducting Site Assessment.....</b>	<b>7-1</b>
7.1 Signature of Environmental Professional.....	7-1
7.2 Statement of Assessor’s Qualifications .....	7-1
<b>A A-1</b>	
<b>Database Radius Report .....</b>	<b>A-1</b>
<b>B B-1</b>	
<b>Landowner Lease Map .....</b>	<b>B-1</b>
<b>C C-1</b>	
<b>Photographic Documentation.....</b>	<b>C-1</b>
<b>D D-1</b>	
<b>State and Local Records .....</b>	<b>D-1</b>

# List of Tables



Table		Page
3-1	Minimum ASTM Search Distance Radii.....	3-1

# List of Figures



Figure		Page
1	Project Area Map.....	F-1
2	Topographic Map.....	F-2
3	Aerial Map.....	F-3
4	Site Observations Map .....	F-4

## Notice

This technical report is presented for Shell WindEnergy, Inc. its agents, successors, and assigns. Though legal and/or regulatory information may be contained herein, said information is not intended to constitute legal advice or opinion and, to the extent such legal advice or opinion is required, Shell WindEnergy, Inc. is advised to seek the advice of legal counsel. The findings contained herein are limited by the scope of the field activities specified in the report and the quality and type of information provided and/or made available to Ecology and Environment, Inc. (E & E) for review and is subject to revision if additional or more definitive information becomes available.

# 1

## Introduction

Ecology and Environment, Inc. (E & E) was retained by Shell WindEnergy, Inc. to perform an Environmental Site Assessment (ESA) for the Hermosa Wind Energy Project (hereinafter referred to as the Project Area). The Project Area encompasses approximately 26,865 acres of land located in the south-eastern area of Albany County. The Project Area boundary is depicted in Figures 1-4. The majority of the Project Area is located on private lands; however, there are approximately 6,316 acres of state owned public lands in the central, northeastern and southeastern portions of the Project Area. Please see the Project Area Lease Map provided in Appendix B for property ownership references. The Project Area is located approximately 18 miles to the southeast of the City of Laramie, Wyoming, and abuts the State of Colorado on its southern boundary.

The proposed wind energy facility will likely occupy narrow bands of acreage along proposed access roads, existing roads, and proposed transmission and connection lines. A map of the Project Area delineating the layout of the associated windpark facilities and proposed features was not provided by the client prior to the site visit. It is understood that only a relatively small portion of the entire Project Area will actually be developed for wind energy development.

The towns of Hermosa and Tie Siding in Albany County, Wyoming are located just outside of the north-central border of the Project Area. U.S. Highway 287 bisects the northern half of the Project Area running northwest-southeast; and in the southern half of the Project Area forms a portion of the eastern border. A Union Pacific Railroad runs east-west through the northern half of the Project Area. The Project Area is located within the Laramie River (perennial) drainage. The Laramie River is located approximately 12 miles to the northwest of the Project Area at its closest point. The Hutton Lake National Wildlife Refuge (NWR) is located approximately 10 miles to the northwest of the Project Area. Regulatory database searches were conducted using the Project Area boundary provided by Shell WindEnergy.

This report presents the findings, opinions, and conclusions made as a result of assessing this property.

## **1.1 Purpose**

The purpose of this ESA is to identify actual and potential environmental liabilities associated with the Project Area and to provide recommendations to reduce those liabilities. This ESA was prepared in support of due diligence efforts being made by Shell WindEnergy, Incorporated in preparation for development of the proposed wind energy facility. Except as noted, this assessment was conducted in accordance with American Society for Testing and Materials (ASTM) standard practice E1527-05. As such, this assessment addresses recognized environmental conditions (RECs) that indicate an existing release, past release, or material threat of a release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface waters. Recognized environmental conditions do not include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. This site assessment did not include a chain-of-title search, an environmental lien search, building interior reconnaissance, an asbestos survey, or a lead-based paint survey. No sub-surface investigation was conducted for the purposes of this ESA.

## **1.2 Detailed Scope of Services**

This site assessment consisted of the following efforts:

- A review of current aerial photos and topographic maps; and a screening level survey of the of the entire Project Area;
- A windshield survey of the Project Area in order to ground-truth the information obtained during the desktop studies. The survey was performed in conjunction with environmental studies and covered areas where a potential for a release of hazardous substances or petroleum products was identified by local agency review and/ or interviews and as a result of a regulatory database search (see Section 4.1). The windshield survey covered all county roads and several private roads, drives, and trails within the Project Area. In addition, E & E traversed the full extent of the stretch of railroad bisecting the northern portion of the Project Area;
- Interviews with the county clerk, the local volunteer fire department, and the county planning department;
- A database search and review of readily-available state and federal records.

The site survey was conducted on May 27th of 2009. Mr. Joseph K. Grieser and Mr. Jason A. Zoller of E & E surveyed the aforementioned portions of the Project Area using the property boundaries provided by Shell WindEnergy Inc. A map of notable site observations is provided as Figure 4 and photographic documentation is provided in Appendix C.

The database search of federal and state standard environmental record sources was conducted prior to the site visit and all properties identified in the database search were surveyed during the site visit. The results of the database search are described in Section 3.1 of this report and are presented in Appendix A. The areas surveyed and photographed in this report were mapped using the global positioning system (GPS) and presented in Figure 4.

The findings, opinions, and conclusions reported herein are based on information collected from records reviewed, observations made during the site visit, and interviews.

### **1.3 Abbreviated Site History**

The Project Area encompasses approximately 26,865 acres of land located in Albany County, Wyoming (see Figure 1). It is located on both private and state owned land. The primary land uses of the Project Area are rangeland for cattle grazing, transportation, and stone quarrying. Much of the Project Area is unused grassland.

The Hermosa Project Area is located primarily on lands that were purchased from the Bureau of Land Management (BLM) by private entities, as well as approximately 6,316 acres of state owned public lands in the northeastern, central and southeastern portions of the Project Area. Four small parcels of BLM land border the Project Area; two on the northeast and two on the east side of the Project Area. According to the United States Geological Survey (USGS) Landcover Inventory, the Project Area contains no range or agricultural lands, however, E & E observed pastures for cattle grazing throughout the Project Area, primarily on private lands. According to aerial imagery and topographic maps, there appear to be no cities located within the Project Area boundaries. One residence was observed during the site survey within the Project Area on property owned by Bath Family Ltd. Partnership, just south of Point #13 on the Site Observations Map (Figure 4). Two towns, Hermosa and Tie Siding, are located just outside of the north-central border of the Project Area. According to the USGS Topographic Map (Figure 2), there are two ranches adjacent to the Project Area. . One ranch is located to the west of the northeastern portion of the Project Area near Dale Creek. The other ranch is located immediately to the west of the entire Project Area. Two former mines are also depicted in the topographic map, outside of the Project Area and east of Route 287. In addition, E & E observed an active quarry in the Project Area near Point #18 (Photograph #21 and #22) in Figure 4 of this report.

A Union Pacific Railroad crosses the Project Area from east to west through the northeastern portion of the property. Portions of the Project Area boundary are adjacent and parallel to the railroad line. According to boundaries provided by Shell WindEnergy Inc., portions of the railroad are located within the Project Area. There are three natural gas pipelines that run from east to west that are lo-

cated on the far northeastern portion of the Project Area (Appendix A). The Medicine Bow Pipeline is owned and operated by Sinclair; the other two pipelines are operated by Colorado Interstate Gas. Both of the Colorado Interstate Gas pipelines are owned by the El Paso Corporation. The southern portion of the Project Area is transected by a transmission corridor that runs east to west. Another pipeline was identified during the database review, and runs along Route 287 to/from Tie Siding (Appendix A: EDR Database Radius Map).

## **1.4 Reason for Performing the Phase 1 ESA**

E & E conducted this ESA as part of Shell WindEnergy Incorporated's due diligence in preparation to build a wind energy production facility and associated ancillary facilities on leased property within the Project Area.

## **1.5 Limitations and Assumptions**

Field observations that provide the basis of this ESA were limited to just those parts of the Project Area accessible and/or observable from existing roads, areas of potential concern identified in state and local records, areas identified by local agency review and/or interviews, and areas identified as suspect during the database review (Appendix A). Subsurface conditions were not investigated during this effort. E & E relied upon the environmental records reported by Environmental Data Resources, Inc. (EDR) to provide state and federal environmental records. E & E did not visit state agency offices, as state records are address specific, and no address is applicable to the entire Project Area. However, E & E was able to review state records concerning an adjacent site in Tie Siding, Wyoming. This site has been documented by the Wyoming Department of Environmental Quality (WDEQ) and is further discussed in Section 3.2 of this report.

E & E visited local offices of Albany County, including the Albany Planning Office in order to obtain any information regarding the issuance of permits and documentation of any potential activity and use limitations (AULs). However, given the overall size of the Project Area, it was not practical to review records listed by physical addresses. E & E also contacted a member of Tie Siding Volunteer Fire regarding department responses to any fires, chemical spills, or other incidents within the Project Area.

E & E contacted the Wyoming Department of Environmental Quality (WDEQ) in order to identify any potential environmental concerns regarding the Project Area. E & E was informed of an adjacent leaking underground storage tank (LUST) site by the WDEQ underground storage tank (UST) department. This LUST site was not identified in the regulatory database. This site is further discussed in Section 3.2 and relevant documentation is provided in Appendix D. In addition, E & E



searched the internet database of the Wyoming Oil and Gas Commission (WOGC) in order to identify documented oil and gas production activities within the Project Area. E & E identified two plugged and abandoned oil wells located in the vicinity, but outside the Project Area boundary. These wells are discussed in Section 3.2 and are documented in Appendix D.

E & E did not evaluate radon and vapor intrusion issues regarding the Project Area. Releases from these sources are generally associated with confined spaces such as residential basements in areas where there is subsurface soil contamination. Therefore, they are not expected to be an issue in the construction or operation of a wind farm due to the open nature of a typical facility layout.

E & E did not review historical aerial photographs and historical topographic maps as part of our ESA review. After review of current aerial maps, current topographic maps, database search results, and other desktop analyses, E & E determined that the review of historic aerial and topographic maps for the study area was not warranted.

# 2

## Site Review

### 2.1 Location and Ownership of Property

The Project Area is located within Albany County, Wyoming (Figures 1-4). The typical landscape of the region is low mountain slopes and nearly level flood-plains. The City of Laramie lies approximately 18 miles to the northwest of the Project Area, while the towns of Hermosa and Tie Siding, Albany County, Wyoming are located just outside of the north-central border of the Project Area. U.S. Highway 287 bisects the northern half of the Project Area running northwest-southeast; and in the southern half of the Project Area forms a portion of the eastern border. A Union Pacific Railroad runs east-west through the northern half of the Project Area. The Project Area is located within the Laramie perennial river drainage. The Laramie River is located approximately 12 miles to the northwest of the Project Area at its closest point.

The Project Area encompasses property owned by six separate private landowners and also the State of Wyoming. A map showing Project Area landowner lease boundaries, created using information provided by Shell WindEnergy Inc. of the current property owners, is included in Appendix B. Interviews of landowners prior to the site visit were not conducted, as the only industrial land usage identified in the immediate vicinity was stone quarrying and railroad operation. E & E visited the known quarry on-site and traversed all portions of the aforementioned railroad that transect the Project Area.

### 2.2 Site Designation

The entire Project Area is located within Albany County, Wyoming. The southern border of the Project Area abuts the State of Colorado border.

### 2.3 Current Use of the Property

Land usage within the Project Area was evaluated using the United States Geological Survey (USGS) Land Use/Land Cover base maps, interpretation of recent topographic maps and aerial photographs, and information gained during the site

visit. The primary land uses of the Project Area are rangeland for cattle grazing, transportation via road highway and railroad, and stone quarrying. In addition, much of the Project Area is unused grassland. Areas of the southern portion of the Project Area are forested (Figure 2), predominantly by Ponderosa Pine, and may be harvested for timber. There are several private residences located on parcels of land that are not within the project boundaries but are directly adjoining to or between the project boundaries. In addition, one residence was observed within the Project Area on land owned by the Bath Family Ltd. Partnership.

The aforementioned Union Pacific railroad spur runs from east to west through the northern portion of the Project Area. Three trains were observed passing through the Project Area during the site visit. Two railroad switches were observed along the railroad.

Two transmission line corridors pass through the Project Area. One transmission corridor is located in the southern half of the Project Area and runs east to west. The other corridor intersects the southwestern corner of the Project Area and runs northwest to southeast.

Based upon maps provided by EDR and the WOGC; there are three natural gas pipelines used to transport petroleum products. The pipelines transect the northeastern portion of the Project Area. Portions of these pipelines were observed during the site visit and photographic documentation is provided in Appendix C. No evidence of a release was identified or observed during the site visit. In addition, another pipeline runs along the Project Area boundary and along Route 287 to/from Tie Siding. This pipeline is depicted in a database map provided in Appendix A.

## **2.4 Past Uses of the Property**

Based upon interviews with local residents, topographic maps, and field observations, it appears that historical land usage of the Project Area is the same as or similar to the current usage. Historical aerial photographs and historical topographic maps were not used in the preparation of this report, as previously arranged with the client.

## **2.5 Site and Vicinity Characteristics**

The Project Area is located within the Laramie River drainage basin. The Laramie River is located approximately 12 miles to the northwest of the Project Area at its closest point. The Hutton Lake National Wildlife Refuge (NWR) is located approximately 10 miles to the northwest of the Project Area and encompasses five lakes and 1,408 acres of greasewood and grassland upland habitat. This NWR is managed for migratory birds, and participates in the captive breeding program of the Wyoming Toad (USFWS 2009a). The Snowy Range Area of the Medicine Bow National Forest (NF) is approximately 20 miles to the west of the Project

Area, and the Pole Mountain Area of the Medicine Bow NF is approximately 5 miles to the northeast of the Project Area. Medicine Bow NF is a popular recreational area, provides livestock grazing range, timber, and wildlife habitat, and is an important water source for the area (USFS 2009).

The majority of the Project Area is located within the Mid-Elevation Forests and Shrublands (Level IV) of the Southern Rockies (Level III) Ecoregion, while the northwestern portion of the Project Area is located within the Laramie Basin (Level IV) of the Wyoming Basin (Level III) Ecoregion (Chapman *et al.* 2004; Griffith *et al.* 2004). The Mid-Elevation Forests and Shrublands Level IV Ecoregion ranges from 7,500 to 9,000 feet in elevation, and is characterized by low mountain slopes and outwash fans with moderate to high gradient perennial streams throughout. This ecoregion receives an average of 18 to 26 inches of precipitation per year. Temperatures range from 4° to 32° Fahrenheit (F) in January and 40°F to 80°F in July. The dominant vegetation communities in this ecoregion are lodgepole pine forests and Douglas-fir forest with some limber pine. Forests have an understory of grasses, forbs, and shrubs. Some aspen forests occur in the Sierra Madre range, while ponderosa pine woodlands occur in the Laramie Mountains (Chapman, *et al.* 2004).

The Laramie Basin Level IV Ecoregion is a high elevation valley (7100 to 7900 feet) characterized by nearly level floodplains and low terraces. This ecoregion receives an average of 10 to 16 inches of precipitation per year, and temperatures range from 8° to 32°F in January and 44°F to 80°F in July. The Laramie Basin is dominated by mixed grass prairie (Chapman, *et al.* 2004).

## **2.6 Surrounding Property Uses**

The regional land uses are generally rural and characterized by range land, and sparse rural-residential usage. There is some small and scattered commercial usage along transportation corridors such as Rte. 287 and the Union Pacific railroad.

# 3

## Records Review

### 3.1 Standard Environmental Record Sources

#### 3.1.1 Database Description

E & E subcontracted Environmental Data Resources, Inc. (EDR) to perform a search of reasonably ascertainable government records. EDR conducted a site records search compliant to the requirements of ASTM D1527-05, which included searching a prescribed array of federal and state databases. EDR's search of government records, dated March 25, 2009, did not identify any mapped sites either on the target property (Project Area) or within the minimum search distances provided below in Table 3-1. Mapped database results are presented in Appendix A.

**Table 3-1 Search Distances**

Federal Database	Search Distance Radius (miles)
CERCLIS	0.500
NFRAP	0.500
NPL	1.000
NPL Delisted	0.500
NFRAP	0.500
ERNS	0.250
RCRA COR ACT	1.000
RCRA-TSD	0.500
RCRA-GEN	0.250
Federal IC/EC	0.500
Tribal Lands	1.000
Texas State Databases	
TX SPILLS	0.250
SWL	0.500
LUST	0.500
UST	0.250
AST	0.250
IC	0.500
VCP	0.500

**Table 3-1 Search Distances**

Federal Database	Search Distance Radius (miles)
Brownfield	0.500
Other	
Wetlands	0.500
Floodplains	0.500
Tribal Sites	1.000

Note: See Attachment A, “Government Records Searched/Data Currency Tracking” for definitions of the acronyms used in this table.

### 3.1.2 Database Search Results

EDR’s database search identified no sites within the Project Area boundary. A total of 24 sites were identified that had insufficient electronic geo-referencing to be plotted. These sites, called orphan sites, were identified in the database because they are located within the same ZIP codes or counties as those of the Project Area. The majority of these sites were listed as ASTs/USTs with no reported releases or state registered landfills with no documented violations. Descriptions of the orphan site database findings, including which database was the source of the finding, are provided in the EDR radius report (Appendix A). During the site visit, it was noted that none of the 24 orphan site listings have addresses located within the Project Area boundary. Descriptions of all the databases searched are provided in the EDR radius report in Attachment A and an additional summary is presented below.

#### Federal Standard

- CERCLIS: CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). CERCLIS contains sites which are either proposed to be or are on the NPL, and sites which are in the screening and assessment phase for possible inclusion on the NPL. A review of the CERCLIS list, as provided by EDR, did not identify any facilities within the search distance radius.
- CERCLIS-No Further Remedial Action Planned (NFRAP): As of February 1995, CERCLIS sites with a designation of “NFRAP” have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or contamination was not serious enough to require federal Superfund action or NPL consideration. A review of the CERCLIS-NFRAP list, as provided by

EDR, has revealed that there are no CERCLIS-NFRAP listed facilities within the searched radius.

- **National Priority List (NPL):** Also known as Superfund, the NPL database is a subset of the Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) and identifies over 1,200 sites for priority cleanup under the Superfund program. The United States Environmental Protection Agency (USEPA) is the source of this database. A review of the NPL listings, as provided by EDR, has revealed that there are no NPL listed facilities within the searched radius.
- **Emergency Response Notification System (ERNS):** ERNS records and stores information on reported releases of oil and hazardous substances. USEPA is the source of this database. A review of the ERNS list, as provided by EDR, has revealed no ERNS data within the searched radius.
- **RCRA Corrective Action Sites (CORRACTS):** CORRACTS lists the hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity. A review of the CORRACTS list, as provided by EDR, has revealed that there are no geo-referenced sites listed in the CORRACTS database.
- **RCRAInfo:** RCRAInfo is EPA's comprehensive information system, providing access to data supporting the RCRA of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). A review of the RCRAInfo database revealed that there are no geo-referenced RCRA sites within the searched radius.
- **Federal IC/EC:** The IC/EC list sites that have either engineering controls or institutional controls. The contaminated media and the type of control implemented are also included in the data. A review of the Federal IC/EC database revealed that there are no IC/EC sites within the searched radius.
- **Delisted from NPL:** The National Oil and Hazardous Substance Pollution Contingency Plan (NCP) establishes the criteria that the USEPA uses to delete sites from the NPL. In accordance with 40 Code of Federal Regulations (CFR) 300.425 (e), sites may be deleted from the NPL where no further response is appropriate. A review of the database revealed that there were no delisted NPL sites within the search radius.
- **U.S. Brownfields:** Included in the Brownfields Sites listing maintained by the USEPA are Brownfields properties addresses by cooperative agreement recipients and Brownfields properties addressed by targeted Brownfields

assessments. USEPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities – especially those without USEPA Brownfields Assessment Demonstration Pilots – minimize the uncertainties of contamination often associated with Brownfields. A review of the database revealed that there were no US Brownfield areas within the search radius.

### **State Standard**

- **Solid Waste Facilities/Landfill (SWF):** SWF-type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities, or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites. The database search indicated that there are no landfills within the search radius of the Project Area. Eleven [11] solid waste landfills (SWLs) were listed as orphan sites. Addresses for all of these sites showed them to be located in the City of Laramie and outside the search radius.
- **Leaking Underground Storage Tank Database (LUST):** LUST is an inventory of reported leaking petroleum storage tank incidents. A review of the LUST list, as provided by EDR, has revealed that there are no LUST facilities within the search radius of the site. Two [2] LUST sites were listed as orphan sites and based upon address information, are located more than 20 miles to the south in the City of Livermore, Colorado.
- **Underground Storage Tank (UST):** The UST database contains registered USTs. USTs are regulated under Subtitle I of RCRA. A review of the database revealed that there are no UST facilities within ¼-mile of the searched area. Three [3] UST facilities were listed as orphan sites. These facilities are located in the City of Laramie and outside the search radius.
- **Aboveground Storage Tank (AST):** The data in the AST database are from the TCEQ. A review of the AST list, as provided by EDR, has revealed that there are no geo-referenced AST facilities within the search radius of the LWP site. One [1] orphan AST site was identified, but it is located in the City of Laramie and outside the search radius.
- **Voluntary Cleanup Program (VCP):** The VCP sites database lists sites involved in a voluntary remediation program. A review of the VCP database revealed that there are no listed VCP sites within the searched radius.

## 3.2 Additional Environmental Record Sources

### State Record Sources

#### Wyoming Department of Environmental Quality

On March 30, 2009, E & E contacted the Wyoming Department of Environmental Quality (WDEQ) in Cheyenne, Wyoming to obtain any known information in connection with the Project Area, regarding reported violations, hazardous substances, reported spills, and registered UST/ASTs. Correspondence was conducted via e-mail with Ms. Laura Laughlin, Executive Secretary, WDEQ (Appendix D). E & E was informed that WDEQ does not have an automated filing system and that a file search could only be conducted on-site in their office in Cheyenne, Wyoming. Given the absence of evidence to suggest a release had occurred and difficulties experienced in the past in trying to conduct meaningful reviews of agency files that are not organized, it was determined that a review of this data was not practical. E & E did, however, contact the WDEQ UST Department via telephone to obtain any known information in connection with the Project Area, regarding registered USTs. E & E interviewed Mr. Bob Lucht, of the WDEQ UST Program. Mr. Lucht was only aware of one site in proximity to the Project Area, in Tie Siding, Wyoming that had undergone remediation in the past for leaking gasoline USTs. This site is located adjacent to the northern Project Area boundary at the west side of the intersection of Rte. 287 and Hermosa Road (Rte. 222). A photograph of the site is provided in Appendix C and the site is located near Point # 22 (Photograph #25) in Figure 4. According to Mr. Lucht, the site had three 1,000-gallon capacity gasoline USTs, which were installed January 1, 1963 and removed from the ground on March 31, 1990. The WDEQ Facility ID number for the site is #0-000834 and it is owned by Ms. Glow E. Serrano, P.O. Box 61, Tie Siding, Wyoming. All three tanks were of steel construction with steel lines. The site was closed June 27, 1990 and is documented as “permanently out of use”. E & E was informed by Mr. Lucht that the tanks leaked gasoline into the fractured granite subsurface, and that the site had undergone remediation. Five monitoring wells were installed and a drinking water well on-site was reported to have been impacted. Mr. Lucht stated that the State of Wyoming assumes all responsibilities for cleanup, as long as the necessary fees were paid by the facility owner. According to Mr. Lucht, the owner, Ms. Serrano, was currently in good standing with the WDEQ and there were no reported violations or outstanding fees as of March 30, 2009. Mr. Lucht noted that contaminants from the Tie Siding UST site had been detected in a drinking water well at the site. Mr. Lucht provided copies of available documents from the WDEQ, which are provided in Appendix D.

Because this site has undergone remediation under the WDEQ UST Program, it is considered to be de minimis and does not constitute a recognized environmental

condition. Mr. Lucht was unaware of any other sites in the vicinity of the Project Area that would be of any environmental concern.

Additionally, on August 6, 2009, E & E contacted Mr. Lucht regarding a potential railcar spill within the Project Area. He informed E & E that it is very unlikely that the WDEQ has spill information records for an incident that occurred in 1979. This potential spill is discussed in detail below in Section 3.3.

### **Wyoming Oil and Gas Commission**

On May 4, 2009 E & E accessed the internet database of the Wyoming Oil and Gas Commission (WOGC) concerning oil wells in the vicinity. Two wells were identified. Both of these wells were located more than one mile northwest of the Project Area and have been plugged and abandoned, according to the WOGC (Appendix D). The well names are Klink and Meary 1 and were plugged and abandoned in 1950 and 1961, respectively, with no reported releases or violations.

## **3.3 Local Record Sources**

### **Local Fire Department**

On March 23, 2009 and on March 30, 2009, Mr Joseph Grieser of E & E contacted the Albany County Fire Warden, Mr. Scott Davis, via telephone regarding department responses to any fires, chemical spills, or other incidents within the Project Area vicinity. Mr. Davis was unaware of any chemical spills or other incidents in the vicinity of Tie Siding or Hermosa, Wyoming and provided E & E with the number to contact Mr. Ernie Rowe, Volunteer Fireman of Tie Siding, Wyoming.

Mr. Grieser of E & E contacted Mr. Ernie Rowe of the Tie Siding Volunteer Fire (department) via telephone on March 30, 2009. Mr. Rowe has been a resident of the area for more than 20 years and has worked for Tie Siding Volunteer Fire for more than 10 years. According to Mr. Rowe, the fire department responded to a fire in the vicinity of the Project Area in January of 2009. The fire involved a rail switch heater and a pile of rail road ties near the Town of Hermosa. During the site visit, E & E observed a pile of rail road ties near Hermosa and outside of the Project Area boundary. No evidence of the aforementioned fire was observed within the Project Area boundary. According to Mr. Rowe, the local fire department has not responded to any other fires, any chemical spills, or other incidents within the Project Area boundary or immediate vicinity. Based upon information gathered while traversing the railroad during the site visit, the incident is not expected to represent a significant environmental concern regarding the client's proposed use of the Project Area.

**Local Planning Department**

The planning department for Albany County is located in Laramie, Wyoming. E & E contacted the Albany County Planning Department (ACPD) via telephone on March 30, 2009. Ms. Susan Adler of the ACPD office informed E & E that any files, building permits, and/or violations regarding properties within the vicinity of Tie Siding and Hermosa would be reviewable in person at their office in Laramie, Wyoming. On May 27th, Mr. Grieser visited the ACPD in order to identify the presence of any AULs associated with the Project Area. No records regarding any addresses located within the Project Area were available or reviewed.

**Interview with Landowner / Other Local Resources**

On July 31, 2009, E & E was informed by Shell WindEnergy that a spill had occurred along the railroad right of way (ROW) and on the property owned by Nancy Bath. E & E contacted Nancy Bath via telephone on August 5, 2009 regarding the spill. Ms. Bath informed Mr. Grieser of E & E that a train derailment had occurred in 1979 and that solid phosphorus had spilled from at least one railcar and had burned for a few days. The spill occurred near the Project Area boundary, east of Point # 17 and west of the small body of water near Point # 12 in Figure 4 of this report.

E & E was unable to obtain any agency records regarding the spill, including the Cheyenne, Wyoming office of the WDEQ, the National Transportation Safety Board (NTSB) database, and the National Technical Information Service (NTIS) database. E & E contacted Mr. Lucht of the WDEQ, as mentioned above in Section 3.2. E & E also searched the NTIS and NTSB online databases for any rail car derailments or spills that occurred in Wyoming in 1978, 1979, and 1980. No information regarding the 1979 spill information was available with the NTIS or NTSB. However, Ms. Bath was able to provide a newspaper article from the Laramie Boomerang, dated January 24, 1979, and two pages from a sampling report regarding the spill (McCraken 1979). One of the pages from this report is a detailed sampling map of the spill location and the other is a summary of phosphorus sampling results and mitigation recommendations. A copy of both of these documents is provided in Appendix D. Ms. Bath also provided E & E with the name and contact information of the author of the report. E & E was unable to review the entire report, but was able to interview the author, Mr. Stephen E. Williams, Professor of Soil Biology and Biochemistry at The University of Wyoming. A summary of E & E correspondence with Mr. Williams is provided in the following pages.

On January 22, 1979, a Union Pacific Railroad train derailed at milepost 545 near a water reservoir on the property owned by both Union Pacific and Nancy Bath. This derailment involved between 25 and 30 rail cars. Three of the derailed cars were tank cars carrying white powdered elemental phosphorus. Two of the tank cars carrying the phosphorus were breached and the contents were spilled. One of

the tank cars remained intact and the contents were not spilled. Each of the breached cars were carrying approximately 13,000 gallons of phosphorus, according to the Laramie Boomerang newspaper. One of the cars was breached upon derailment, and the other was breached with explosives by a demolition team from Ft. Bliss, in order to cause the phosphorus to spill out of the tank car and burn away quickly. The tank cars were operated by Union Pacific and the phosphorus was owned by Monsanto, according to Mr. Williams. Most of the phosphorus burned upon contact with the atmosphere, and continued to burn for a few days, according to Mr. Williams and Ms. Bath (Bath 2009, Williams 2009).

Elemental phosphorus quickly oxidizes to non-combustible phosphates upon exposure to oxygen. According to the aforementioned report, elemental phosphorus posed no threat to nearby water supplies, and would not migrate from the surface horizon without becoming oxidized to phosphates. Phosphates, in high concentration, lower the pH of the soil medium to acidic levels, potentially affecting nearby water bodies downstream. During the spill incident, a containment ditch and temporary dams were created to control the spread of the spilled material, according to both the 1979 sampling report and the Laramie Boomerang (Appendix D, McCracken 2009). Results of sampling showed that phosphates existed in high concentrations near the center of the derailment site, west of and up-gradient relative to the reservoir. The average pH of the surface soil with elevated levels of phosphates was 6.125. The sampling report also concluded that phosphates were moving slowly out of the surface horizon, but that this could be mitigated by liming the soil to near pH 8.0 with the application of approximately 12,000 pounds of calcium carbonate per acre. A copy of the report recommendations is provided in Appendix D.

On August 17, 2009, E & E contacted Mr. Williams via telephone regarding the spill and the sampling report. According to Mr. Williams, the report was prepared in cooperation with Dr. P. L. Stageman, Environmental Engineer of Union Pacific railroad. There was also interaction with a WDEQ geologist, named Mr. Tony Mancini, during the preparation of the sampling report. Mr. Williams was informed by Union Pacific that the affected soil had been limed according to the sampling report recommendations. During a follow up conversation with Mr. Williams on August 24, 2009, he reported that he had visited the site more than 13 years ago and found no obvious signs of elemental phosphorus at the spill site. He also mentioned that the nearby pond, or reservoir, located immediately east of the spill site, showed no signs of eutrophication and that the pond was populated by fish and other biota (Williams 2009).

Based upon the ability of elemental phosphorus to readily oxidize to phosphates, involvement of the local regulatory agency (WDEQ), the results of post-spill sampling, the mitigation activities conducted during and after the spill (liming of the site, trenching, etc.), the amount of time passed since the spill occurred, and in-

formation obtained during interviews; the January 22, 1979 phosphorus spill has been determined to be a de minimis condition that does not present a threat to human health or the environment and that it would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies at this time. As such, it is not considered a *recognized environmental condition*.

### **3.4 Physical Setting Sources**

Topographic data was obtained from the current USGS 7.5-minute topographic maps (see Figure 2) showing the site and surrounding area. E & E identified two mines located outside the Project Area boundary on the topographic map. Both mines were located to the east of Route 287 on the map, and were not located during the site visit. According to maps provided by Environmental Data Resources, Inc., a fault line crosses the western portion of the Project Area in a north-south direction, parallel to the mountainous area immediately west of the Project Area.

### **3.5 Fire Insurance Maps**

Given the rural nature of the site and land within the Project Area boundary, Sanborn Fire Insurance maps were not available for any lands located within the Project Area.

### **3.6 User Provided Information**

#### **Title Records**

No title records were provided to E & E to review.

#### **Environmental Liens Records**

There were no records concerning environmental liens provided to E & E and an environmental lien search was not requested by the client.

#### **Specialized Knowledge of the Property**

There was no specialized knowledge of the property provided to E & E by the client.

#### **Other Records**

A map of six landowners, in addition to State of Wyoming was provided to E & E by Shell WindEnergy Inc. This map is provided in Appendix B. In addition, E & E was informed by Shell WindEnergy on July 31, 2009 that a potential spill had occurred along the railroad on the property owned by Nancy Bath. This spill was discussed above in Section 3.3 of this report.

# 4

## Site Reconnaissance

### 4.1 Exterior Observations

Site reconnaissance of the Project Area was conducted by Mr. Joseph K. Grieser of E & E in order to obtain information indicating the likelihood of recognized environmental conditions as specified in ASTM Standard Practice E1527-05 Sections 8.4.2, 8.4.3 and 8.4.4. The observations made during the site visit discussed in this section covered those areas of the Project Area accessible and/or observable from existing roads, areas of potential concern identified in state and local records, areas identified by local agency review and/ or interviews, and areas identified as suspect during the database review (Appendix A). A windshield survey was conducted in order to ground-truth the information obtained during the desktop studies. The windshield survey covered all county roads and several private roads, drives, and trails within the Project Area. In addition, E & E traversed the full extent of the stretch of railroad bisecting the northern portion of the Project Area. All areas mentioned below are photographically documented in Appendix C and mapped as numbered GPS points in Figure 4. The survey revealed the following:

- Aboveground Storage Tanks (ASTs): Two (2) propane tanks were observed in the Project Area. One was observed at near a rail switch in “Dale Junction” along the railroad at Point # 16 (Photograph #17, #18, and #19) in Figure 4 and next to a cellular telephone tower at Point # 25 (Photograph #27 and #28). No evidence of a release was observed at either of these tanks.

E & E observed an AST used for water storage and cattle grazing operations. This water filled AST was located at Point # 20 (Photograph #23).

E & E observed a diesel fuel trailer/tanker, which was parked next to quarrying equipment near Point # 18 (Photograph #21 and #22). This portable petroleum container was not observed closely, due to on-going quarrying activities. However, based upon the portable and temporary nature of the tanker, it is not expected to represent a significant environmental concern.

- Debris, drums, containers and scrap: A pile of trash and debris, empty barrels/containers, empty 55-gallon drums, metal conduits, wire, appliances,

#### 4. Site Reconnaissance

abandoned farm equipment, and scrap metal was observed during the site visit at Point # 29 (Photograph #32, #33, #34, #35, and #36) on property owned by Gene and Marylynn Fischer, within the Project Area. The debris was piled in a ditch along an access road. Three unmarked empty drums and one empty pesticide drum were observed in this pile. In addition, several empty containers and metal buckets were observed. However, no odors, staining of the ground, stressed vegetation, or evidence of a past release was observed in this area. Photographs of this pile are provided in Appendix C. Based upon these observations and the lack of evidence of a significant release, the presence of the trash pile is not expected to represent a significant environmental concern. However, it does represent a general housekeeping concern and a physical hazard.

E & E observed several five-gallon cans within the Project Area. Two full containers were observed next to the railroad at Point # 14 (Photograph #16) on a palette. The unmarked contents were presumed to be switch oil for railroad operations. No staining of the ground, stressed vegetation, odor of petroleum, or evidence of a release or product mishandling was observed. In addition, several empty cans of similar appearance were observed at Point # 17 (Photograph #20). No staining of the ground, stressed vegetation, odor of petroleum, or evidence of a release was observed. The empty cans appeared to have been discarded next to the railroad after being emptied. Based upon these observations and the lack of evidence of a significant release, the presence of the containers is not expected to represent a significant environmental concern.

- **Oil and Gas Facilities:** As discussed in Section 2.3 above, three (3) natural gas pipelines transect the Project Area. In addition, one pipeline follows the Project Area boundary along Route 287 in Tie Siding (Photograph #40). Photographic documentation is provided in Appendix C. No evidence of a release from these pipelines was observed during the site visit. In addition, no oil or gas wells were identified or observed within the Project Area.
- **Railroad ROW:** E & E traversed the entire portion of the railroad ROW that passes through the Project Area and all portions immediately adjacent to the Project Area. E & E did not observe any signs of a past release or spill along the ROW within the Project Area.
- **Electrical or Mechanical Equipment Likely to Contain Fluids:** Nine (9) pole-mounted transformers were observed within or adjacent to the Project Area. Two of the transformers are shown in Photograph #19. Toxic polychlorinated biphenyls (PCBs) were commonly used historically in electrical equipment such as transformers, lamp ballasts, and capacitors. Pursuant to U.S.C 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of

any PCB in any manner other than in a totally enclosed manner was prohibited after January 1, 1977. The observed transformers are not known to be PCB containing and appeared to be in good condition. No spills, staining or leaks were observed on or around any of the transformers. Based upon the condition of the equipment and observations, the presence of the transformers is not expected to represent a significant environmental concern.

E & E did not observe any evidence of corrosion; strong, pungent or noxious odors; pools of unidentified liquid; drains, sumps or clarifiers; pits, ponds (other than naturally occurring) and lagoons; stressed vegetation or stained soil; waste water discharges; wells; evidence of septic systems; or evidence of fill materials.

#### **4.2 Interior Observations**

Structures and buildings associated with farming, ranching, and railroad operations were observed within the Project Area boundaries. These structures were not accessed by E & E personnel during field observations.

# 5

## Conclusions

E & E has performed an ESA in general conformance with the scope and limitations of ASTM Practice E1527-05 for the Shell WindEnergy Inc. Hermosa Project Area in Albany County, Wyoming; proposed for the development of a wind energy facility. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the proposed use of the Project Area to be developed by Shell WindEnergy Inc.

# 6

## References

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- Lucht, Bob. 2009. Personal communication, WDEQ Project Manager, phone interview, March 30, 2009, with J. K. Grieser, Ecology and Environment, Inc., Dallas, Texas.
- McCracken, Mike (1979, January 24). Explosives Used at Derailment Site. *The Laramie Boomerang*, pp. 1, 8.



Rowe, Ernest. 2009. Personal communication, Tie Siding Volunteer Fireman, phone interview, April 6, 2009, with J. K. Grieser, Ecology and Environment, Inc., Dallas, Texas.

United States Fish and Wildlife Service (USFWS). 2008. Federal Endangered and Threatened Species and Designated Critical Habitats that Occur in or may be Affected by Projects in Albany County, Wyoming. Ecological Services, Cheyenne, Wyoming. Last Updated September 2008. <http://www.fws.gov/mountain-prairie/species/wyoming/> (Accessed January 19, 2009).

\_\_\_\_\_. 2009a. Hutton Lake National Wildlife Refuge. Laramie, WY. <http://www.fws.gov/Refuges/profiles/index.cfm?id=65522> (Accessed February 11, 2009).

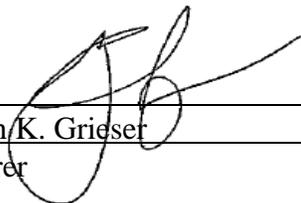
Williams, Stephen. 2009. Personal communication, Professor of Soil Biology and Biochemistry at The University of Wyoming, phone interview, August 24, 2009, with J. K. Grieser, Ecology and Environment, Inc., Dallas, Texas.

# 7

## Signature and Qualifications of Environmental Professional Conducting Site Assessment

### 7.1 Signature of Environmental Professional

Mr. Joseph K. Grieser of E & E prepared this site assessment report under the direction of Mr. Joseph Forti, the senior reviewer. By signing this report, the senior reviewer declares that, to the best of his or her professional knowledge and belief, he or she meets the definition of *Environmental Professional* as defined in 40 CFR Part 312, Section 312.10.

  
\_\_\_\_\_  
Joseph K. Grieser  
Preparer

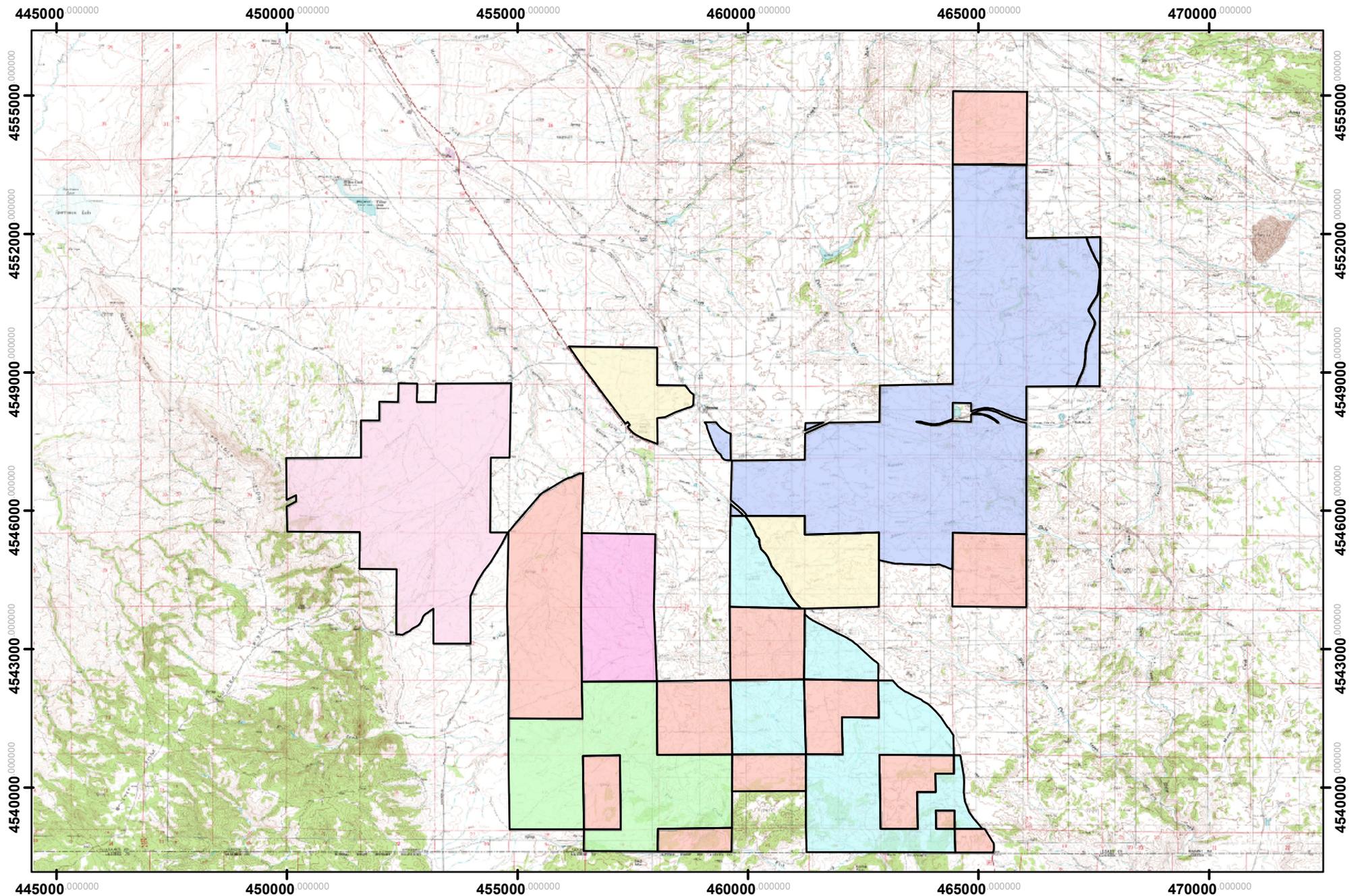
\_\_\_\_\_  
August 31, 2009  
Date

  
\_\_\_\_\_  
Joseph Forti  
Senior Reviewer

\_\_\_\_\_  
August 31, 2009  
Date

### 7.2 Statement of Assessor's Qualifications

Mr. Forti is an environmental scientist with over 20 years' experience conducting site assessments and regulatory compliance audits to support property transfers, site remediation, and environmental program management. He has performed audits at industrial plants, hospitals, military installations, power plants, and brown-field sites.

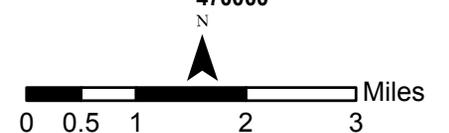


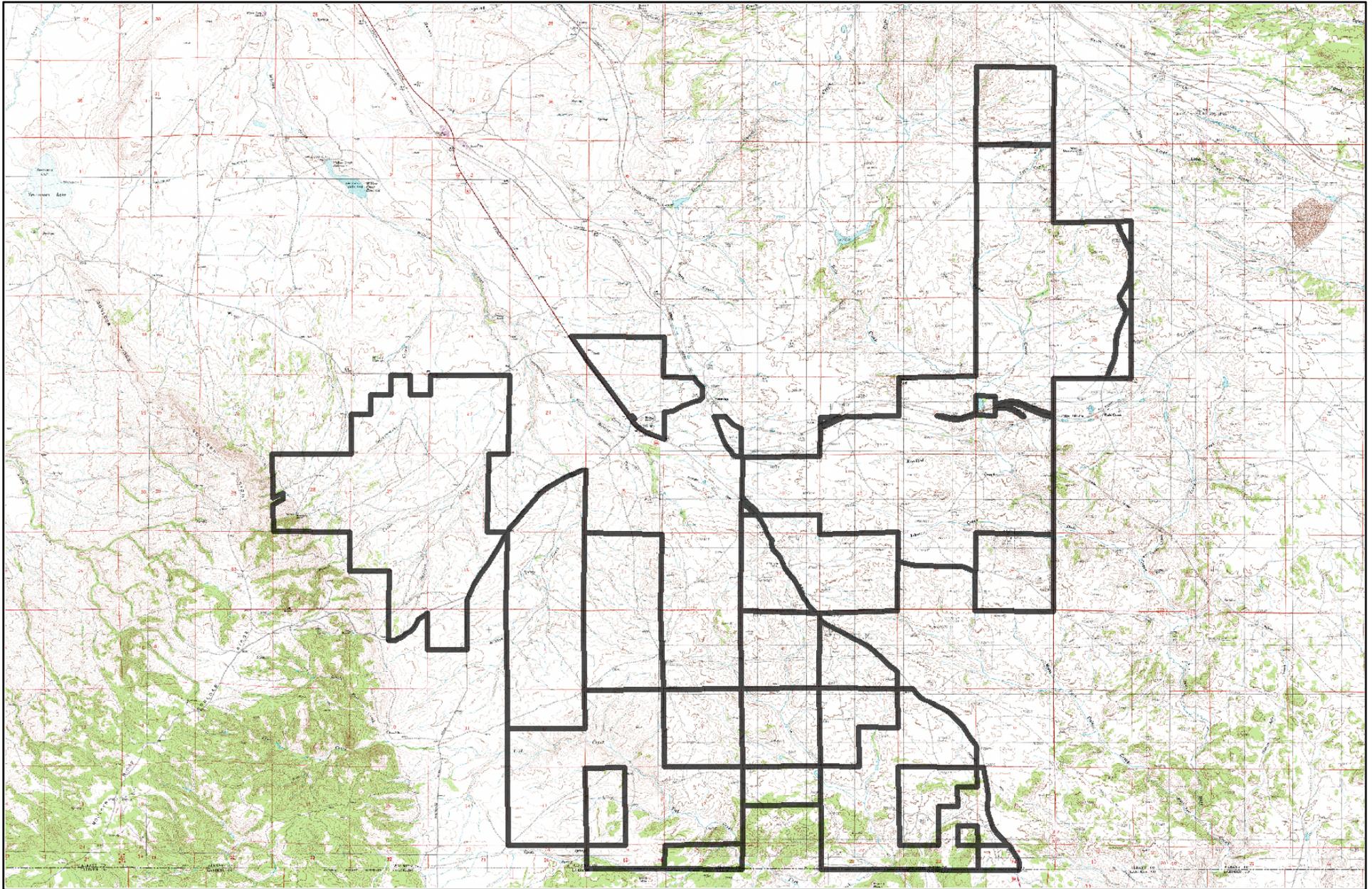
**Figure 1. Project Area Map with Leases Boundaries**  
**Hermosa Wind Project**  
**Albany County, Wyoming**

Source:  
 USGS 100K DRG Standardized Topographic Map

**Hermosa Leases Boundaries**

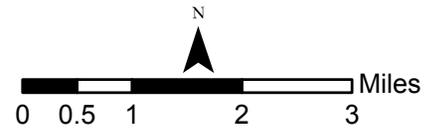
- |  |  |
|--|--|
|  Bath Family Ltd. Partnership   |  Kilpatrick                   |
|  Craig, Dennis P. & Carla       |  Parker, John B. & Shaaron B. |
|  Estate Of Wyoming              |  Reyes, Juan & Joni           |
|  Fischer, Gene E. & Marylynn A. |  |





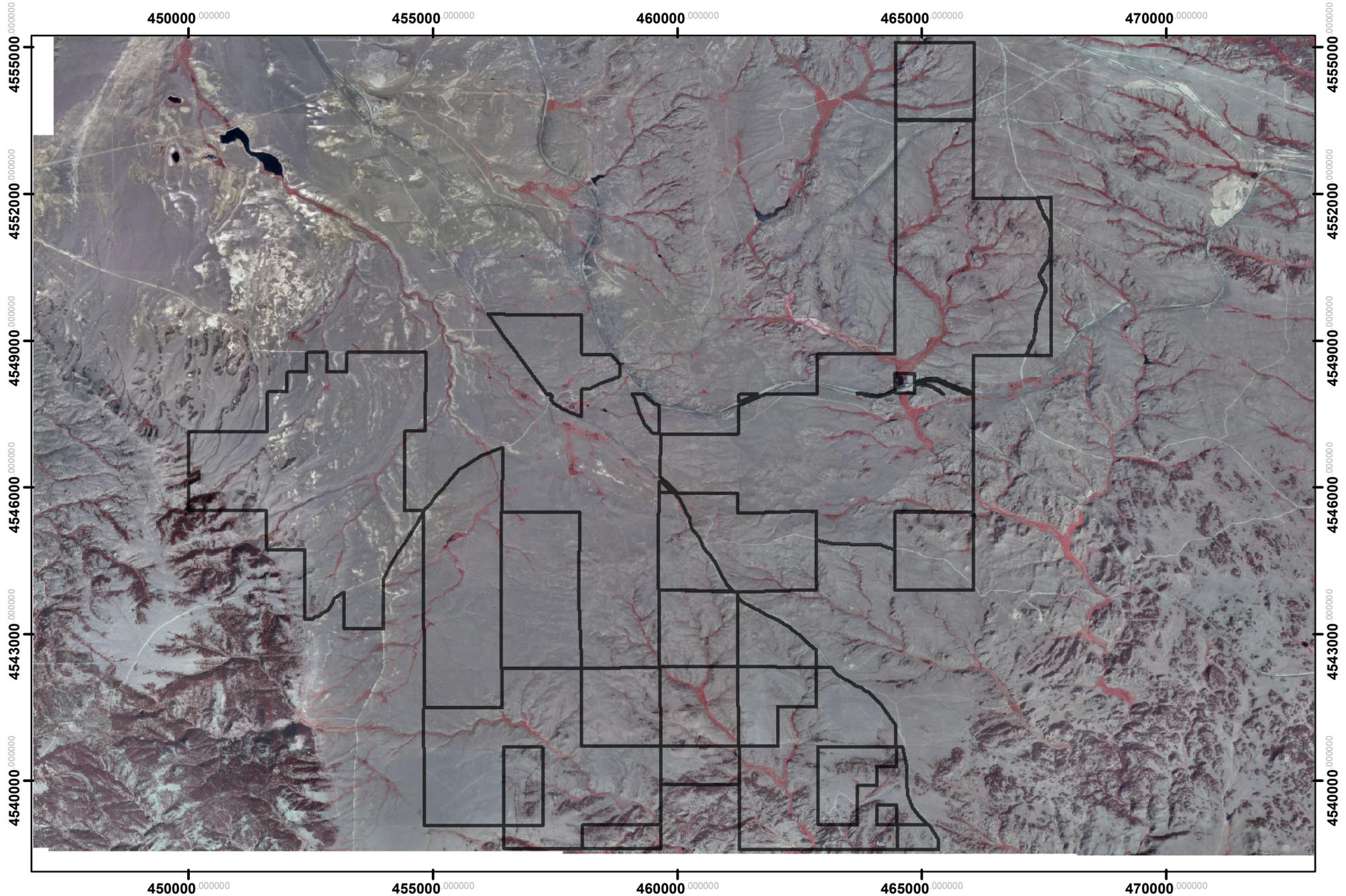
**Figure 2. USGS Topographic Map  
Hermosa Wind Project  
Albany County, Wyoming**

 Proposed Project Boundary



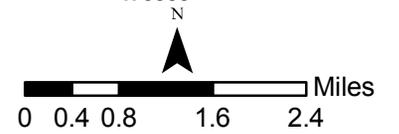
Source:  
USGS 100K DRG Standardized Topographic Map



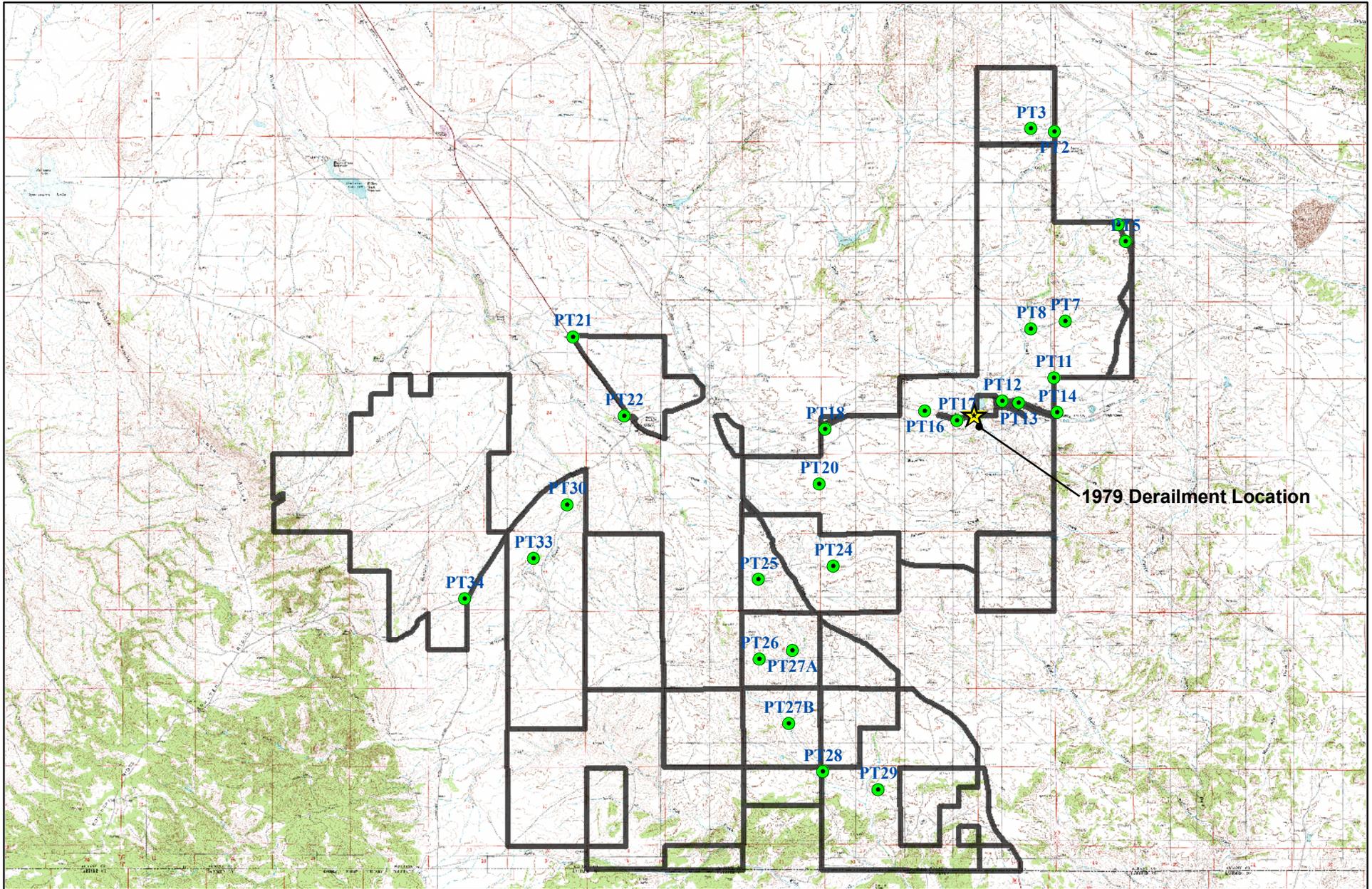


**Figure 3. Aerial Photograph Map  
Hermosa Wind Project  
Albany County, Wyoming**

 Proposed Project Boundary

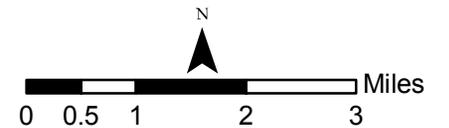


Source:  
2002 Color Infra Red Digital Orthophoto Quads



**Figure 4. Site Observation Map  
Hermosa Wind Project  
Albany County, Wyoming**

-  Proposed Project Boundary
-  GPS Location Point
-  1979 Derailment Location



Source:  
USGS 100K DRG Standardized Topographic Map

**A**

# Database Radius Report

**Hermosa Project Area**

Hermosa, WY 82052

Inquiry Number: 02451171.1r

March 25, 2009

# EDR DataMap™ Area Study

***Thank you for your business.***  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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# EXECUTIVE SUMMARY

## TARGET PROPERTY INFORMATION

### ADDRESS

HERMOSA, WY 82052  
HERMOSA, WY 82052

## DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

## FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
ODI	Open Dump Inventory
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems

## EXECUTIVE SUMMARY

ICIS.....	Integrated Compliance Information System
PADS.....	PCB Activity Database System
MLTS.....	Material Licensing Tracking System
RADINFO.....	Radiation Information Database
FINDS.....	Facility Index System/Facility Registry System
RAATS.....	RCRA Administrative Action Tracking System
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing

### **STATE AND LOCAL RECORDS**

WY SHWS.....	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
CO SHWS.....	This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.
CO METHANE SITE.....	Methane Site Investigations - Jefferson County 1980
WY SWF/LF.....	Solid Waste Facility Database
CO SWF/LF.....	Solid Waste Sites & Facilities
CO Methane Investigation.....	Methane Gas & Swamp Findings
CO HIST LF.....	Historical Landfill List
CO LUST.....	Leaking Underground Storage Tank List
WY LTANKS.....	Known Contaminated Sites
CO LUST TRUST.....	RAP Site Listing
WY UST.....	Underground Storage Tanks
CO UST.....	Underground Storage Tank Database
CO LAST.....	Leaking Aboveground Storage Tank Listing
WY AST.....	Wyoming Aboveground Storage Tanks
CO AST.....	Aboveground Tank List
WY SPILLS.....	SPILL Database
CO ERNS.....	Spills Database
WY INST CONTROL.....	Sites with Institutional Controls
CO AUL.....	Environmental Real Covenants List
WY VCP.....	List of Voluntary Remediation Program Sites
CO VCP.....	Voluntary Cleanup & Redevelopment Act Application Tracking Report
CO DRYCLEANERS.....	Drycleaner Facilities
WY BROWNFIELDS.....	Brownfields Sites Listing
WY CDL.....	Clandestine Drug Lab Site Locations
CO CDL.....	Meth Lab Locations
CO NPDES.....	Permitted Facility Listing
CO AIRS.....	Permitted Facility & Emissions Listing
CO UMTRA.....	Uranium Mill Tailings Sites
WY SHWF.....	Solid & Hazardous Waste Facility Database
CO ASBESTOS.....	Asbestos Abatement & Demolition Projects

### **TRIBAL RECORDS**

INDIAN RESERV.....	Indian Reservations
INDIAN ODI.....	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST.....	Leaking Underground Storage Tanks on Indian Land
INDIAN UST.....	Underground Storage Tanks on Indian Land
INDIAN VCP.....	Voluntary Cleanup Priority Listing

### **EDR PROPRIETARY RECORDS**

Manufactured Gas Plants..... EDR Proprietary Manufactured Gas Plants

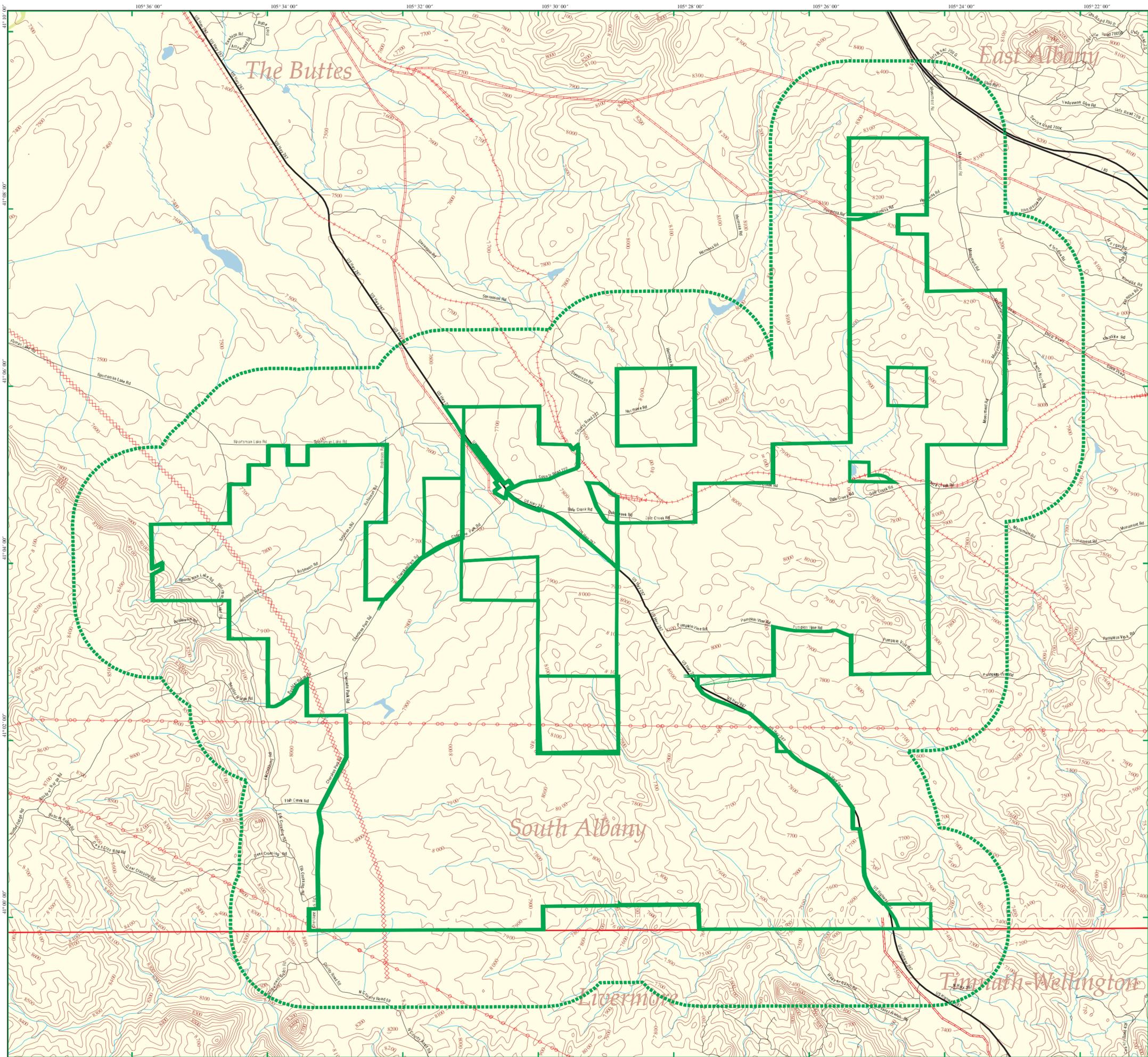
### **SURROUNDING SITES: SEARCH RESULTS**

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

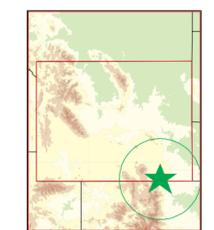
## **EXECUTIVE SUMMARY**

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.



### Hermosa Project Area

-  Listed Sites
-  Earthquake Epicenters (Richter 5 or greater)
-  Search Boundary
-  Roads
-  Major Roads
-  Waterways
-  Railroads
-  Contour Lines
-  Pipelines
-  Powerlines
-  Fault Lines
-  Water
-  Superfund Sites
-  Federal DOD Sites
-  Indian Reservations BIA
-  100-Yr Flood Zones
-  National Wetland Inventory



Hermosa, WY



Scale in Miles



MAP FINDINGS SUMMARY

<u>Database</u>	<u>Total Plotted</u>
<b><u>FEDERAL RECORDS</u></b>	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	0
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
ODI	0
DEBRIS REGION 9	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	0
RAATS	0
SCRD DRYCLEANERS	0
<b><u>STATE AND LOCAL RECORDS</u></b>	
WY SHWS	N/A
CO SHWS	N/A
CO METHANE SITE	0
WY SWF/LF	0

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Total Plotted</u>
CO SWF/LF	0
CO Methane Investigation	0
CO HIST LF	0
CO LUST	0
WY LTANKS	0
CO LUST TRUST	0
WY UST	0
CO UST	0
CO LAST	0
WY AST	0
CO AST	0
WY SPILLS	0
CO ERNS	0
WY INST CONTROL	0
CO AUL	0
WY VCP	0
CO VCP	0
CO DRYCLEANERS	0
WY BROWNFIELDS	0
WY CDL	0
CO CDL	0
CO NPDES	0
CO AIRS	0
CO UMTRA	0
WY SHWF	0
CO ASBESTOS	0
 <b><u>TRIBAL RECORDS</u></b>	
INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0
 <b><u>EDR PROPRIETARY RECORDS</u></b>	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

MAP FINDINGS

Map ID  
Direction  
Distance  
Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

NO SITES FOUND

## ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LARAMIE	A100228280	WYCOLO LODGE	4039 HIGHWAY 230	82070	WY AST
LARAMIE	1000880806	WY DEPT OF TRANSPORTATION	HWY 287 SOUTH	82070	FINDS, RCRA-NonGen
LARAMIE	S108323929	DEPARTMENT OF TRANSPORTATION	HIGHWAY 287 SOUTH	82070	WY SHWF
LARAMIE	1004804853	WYOTECH	1557 N 3RD	82070	FINDS, RCRA-CESQG
LARAMIE	1006818084	PASCHALL TRUCK LINES	INTERSTATE 80 EXIT 310	82070	FINDS, RCRA-NonGen
LARAMIE	S104995666	ARK RECYCLING SERVICES	222 BAKER STREET 1150 NORTH THIRD	82070	WY SWF/LF, WY SHWF
LARAMIE	S104995758	LARAMIE LANDFILL	P.O. BOX C	82070	WY SWF/LF, WY SHWF
LARAMIE	S108248526	EPA CLEANUP - YTTRIUM PROCESSING PLANT	CORNER OF CEDAR / CURTIS	82070	WY SWF/LF, WY SHWF
LARAMIE	S108323707	BOSLER (10.045)	COUNTY COURTHOUSE	82070	WY SHWF
LARAMIE	S104995837	BOSLER	COUNTY COURTHOUSE	82070	WY SWF/LF
LARAMIE	S104995665	CIG - LARAMIE COMPRESSOR STATION	176 HUNT RAOD	82070	WY SWF/LF, WY SHWF
LARAMIE	1000402804	WESTERN RESEARCH INSTITUTE - NORTH SITE	1 MILE NORTH ON US HIGHWAY 30	82070	FINDS, CERC-NFRAP, RCRA-NonGen
LARAMIE	S108323821	CIGC - LARAMIE COMPRESSOR STATION	24 MILES WEST ON I-80, 3/4 MILE EAS	82070	WY SHWF
LARAMIE	U000682960	CROW CREEK WYOMING RELAY STATION	12 MILES SOUTHEAST OF LARAMIE EXIT 323 OFF I-80	82070	WY UST
LARAMIE	U001964311	SHERMAN HILL MICROWAVE SITE	13 MILES W ON HAPPY JACK ROAD AND EXIT 323 I-80	82070	WY UST
LARAMIE	S108248696	US ARMY CORPS OF ENG - POLE MOUNTAIN TAR	7 MILES EAST OF LARAMIE: 40 MILES W	82070	WY SWF/LF, WY SHWF
LARAMIE	S104995397	MOUNTAIN CEMENT IND. #1 (ILLEGAL)	P. O. BOX 339	82070	WY SWF/LF, WY SHWF
LARAMIE	U003547004	WY DEPARTMENT OF TRANSPORTATION	SOUTH ON HIGHWAY U. S. 287 P. O. BOX 1005	82070	WY UST
LARAMIE	S108248717	WR METALS INDUSTRIES, INC	17 SAND CREEK ROAD - BLDG 2 / PART	82070	WY SWF/LF, WY SHWF
LARAMIE	S108248692	UNION PACIFIC RAILROAD, LARAMIE TIE PLAN	2736 FT. SANDERS DRIVE	82070	WY SWF/LF, WY SHWF
LARAMIE	1001970059	POLE MOUNTAIN FORMER TARGET AND MANEUVER AREA	SEVEN MILES EAST OF LARAMIE	82070	CERCLIS, FINDS
LARAMIE	1000165812	CIGC LARAMIE COMPRESSOR STATION	24 MI W ON I-80, 3/4 MI EAST	82070	FINDS, RCRA-NonGen
LIVERMORE	S108084716	THE FORKS GENERAL STORE	17685 HWY 287	80536	CO LUST
LIVERMORE	S105566978	OWL CANYON QUARRY	16230 N US HWY 287	80536	CO LUST

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## FEDERAL RECORDS

### NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/29/2008	Source: EPA
Date Data Arrived at EDR: 10/10/2008	Telephone: N/A
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 01/26/2009
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: Quarterly

### NPL Site Boundaries

#### Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-6686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

### Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/29/2008	Source: EPA
Date Data Arrived at EDR: 10/10/2008	Telephone: N/A
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 01/26/2009
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: Quarterly

### DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/29/2008	Source: EPA
Date Data Arrived at EDR: 10/10/2008	Telephone: N/A
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 01/26/2009
Number of Days to Update: 40	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 02/16/2009
Number of Days to Update: 56	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: No Update Planned

## CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/07/2008	Source: EPA
Date Data Arrived at EDR: 10/16/2008	Telephone: 703-412-9810
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 01/30/2009
Number of Days to Update: 53	Next Scheduled EDR Contact: 04/13/2009
	Data Release Frequency: Quarterly

## CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007	Source: EPA
Date Data Arrived at EDR: 12/06/2007	Telephone: 703-412-9810
Date Made Active in Reports: 02/20/2008	Last EDR Contact: 03/16/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: 06/15/2009
	Data Release Frequency: Quarterly

## LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/20/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/23/2008	Telephone: 202-564-6023
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 03/03/2009
Number of Days to Update: 83	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

## CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/11/2008	Source: EPA
Date Data Arrived at EDR: 09/19/2008	Telephone: 800-424-9346
Date Made Active in Reports: 10/16/2008	Last EDR Contact: 03/03/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/01/2009
	Data Release Frequency: Quarterly

## RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/12/2008  
Date Data Arrived at EDR: 11/18/2008  
Date Made Active in Reports: 03/16/2009  
Number of Days to Update: 118

Source: Environmental Protection Agency  
Telephone: 303-312-6149  
Last EDR Contact: 03/25/2009  
Next Scheduled EDR Contact: 05/18/2009  
Data Release Frequency: Quarterly

## RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008  
Date Data Arrived at EDR: 11/18/2008  
Date Made Active in Reports: 03/16/2009  
Number of Days to Update: 118

Source: Environmental Protection Agency  
Telephone: 303-312-6149  
Last EDR Contact: 03/25/2009  
Next Scheduled EDR Contact: 05/18/2009  
Data Release Frequency: Quarterly

## RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/12/2008  
Date Data Arrived at EDR: 11/18/2008  
Date Made Active in Reports: 03/16/2009  
Number of Days to Update: 118

Source: Environmental Protection Agency  
Telephone: 303-312-6149  
Last EDR Contact: 03/25/2009  
Next Scheduled EDR Contact: 05/18/2009  
Data Release Frequency: Quarterly

## RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/12/2008  
Date Data Arrived at EDR: 11/18/2008  
Date Made Active in Reports: 03/16/2009  
Number of Days to Update: 118

Source: Environmental Protection Agency  
Telephone: 303-312-6149  
Last EDR Contact: 03/25/2009  
Next Scheduled EDR Contact: 05/18/2009  
Data Release Frequency: Varies

## RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/12/2008  
Date Data Arrived at EDR: 11/18/2008  
Date Made Active in Reports: 03/16/2009  
Number of Days to Update: 118

Source: Environmental Protection Agency  
Telephone: 303-312-6149  
Last EDR Contact: 03/25/2009  
Next Scheduled EDR Contact: 05/18/2009  
Data Release Frequency: Varies

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/06/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 12/29/2008
Number of Days to Update: 52	Next Scheduled EDR Contact: 03/30/2009
	Data Release Frequency: Varies

### US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/06/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 12/29/2008
Number of Days to Update: 52	Next Scheduled EDR Contact: 03/30/2009
	Data Release Frequency: Varies

### ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/23/2008	Telephone: 202-267-2180
Date Made Active in Reports: 03/17/2008	Last EDR Contact: 01/30/2009
Number of Days to Update: 54	Next Scheduled EDR Contact: 04/19/2009
	Data Release Frequency: Annually

### HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2008	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 10/16/2008	Telephone: 202-366-4555
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 01/30/2009
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/13/2009
	Data Release Frequency: Annually

### DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 05/28/2008	Telephone: 202-366-4595
Date Made Active in Reports: 08/08/2008	Last EDR Contact: 02/24/2009
Number of Days to Update: 72	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: Varies

### CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2008  
Date Data Arrived at EDR: 10/31/2008  
Date Made Active in Reports: 12/23/2008  
Number of Days to Update: 53

Source: Drug Enforcement Administration  
Telephone: 202-307-1000  
Last EDR Contact: 10/31/2008  
Next Scheduled EDR Contact: 03/23/2009  
Data Release Frequency: Quarterly

## US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2008  
Date Data Arrived at EDR: 11/14/2008  
Date Made Active in Reports: 12/23/2008  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 202-566-2777  
Last EDR Contact: 02/10/2009  
Next Scheduled EDR Contact: 04/13/2009  
Data Release Frequency: Semi-Annually

## DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 11/10/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 62

Source: USGS  
Telephone: 703-692-8801  
Last EDR Contact: 02/06/2009  
Next Scheduled EDR Contact: 05/04/2009  
Data Release Frequency: Semi-Annually

## FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007  
Date Data Arrived at EDR: 09/05/2008  
Date Made Active in Reports: 09/23/2008  
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers  
Telephone: 202-528-4285  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Varies

## LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005  
Date Data Arrived at EDR: 12/11/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 31

Source: Department of the Navy  
Telephone: 843-820-7326  
Last EDR Contact: 03/09/2009  
Next Scheduled EDR Contact: 06/08/2009  
Data Release Frequency: Varies

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/15/2008  
Date Data Arrived at EDR: 10/22/2008  
Date Made Active in Reports: 12/23/2008  
Number of Days to Update: 62

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 01/19/2009  
Next Scheduled EDR Contact: 04/19/2009  
Data Release Frequency: Varies

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/21/2008  
Date Data Arrived at EDR: 10/29/2008  
Date Made Active in Reports: 12/23/2008  
Number of Days to Update: 55

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Annually

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007  
Date Data Arrived at EDR: 12/03/2007  
Date Made Active in Reports: 01/24/2008  
Number of Days to Update: 52

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Varies

## DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 03/25/2008  
Date Data Arrived at EDR: 04/17/2008  
Date Made Active in Reports: 05/15/2008  
Number of Days to Update: 28

Source: EPA, Region 9  
Telephone: 415-972-3336  
Last EDR Contact: 03/23/2009  
Next Scheduled EDR Contact: 06/22/2009  
Data Release Frequency: Varies

## ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985  
Date Data Arrived at EDR: 08/09/2004  
Date Made Active in Reports: 09/17/2004  
Number of Days to Update: 39

Source: Environmental Protection Agency  
Telephone: 800-424-9346  
Last EDR Contact: 06/09/2004  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/07/2008  
Date Data Arrived at EDR: 09/23/2008  
Date Made Active in Reports: 10/16/2008  
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 03/24/2009  
Next Scheduled EDR Contact: 06/22/2009  
Data Release Frequency: Semi-Annually

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 49

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 03/17/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Annually

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002  
Date Data Arrived at EDR: 04/14/2006  
Date Made Active in Reports: 05/30/2006  
Number of Days to Update: 46

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 02/18/2009  
Next Scheduled EDR Contact: 04/13/2009  
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)  
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/08/2008  
Date Data Arrived at EDR: 10/17/2008  
Date Made Active in Reports: 12/08/2008  
Number of Days to Update: 52

Source: EPA/Office of Prevention, Pesticides and Toxic Substances  
Telephone: 202-566-1667  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)  
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 10/08/2008  
Date Data Arrived at EDR: 10/17/2008  
Date Made Active in Reports: 12/08/2008  
Number of Days to Update: 52

Source: EPA  
Telephone: 202-566-1667  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Quarterly

## HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2007  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2006  
Date Data Arrived at EDR: 03/14/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 12/04/2008  
Next Scheduled EDR Contact: 01/12/2009  
Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/31/2008  
Date Data Arrived at EDR: 08/13/2008  
Date Made Active in Reports: 09/09/2008  
Number of Days to Update: 27

Source: Environmental Protection Agency  
Telephone: 202-564-5088  
Last EDR Contact: 01/12/2009  
Next Scheduled EDR Contact: 04/13/2009  
Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 12/04/2007  
Date Data Arrived at EDR: 02/07/2008  
Date Made Active in Reports: 03/17/2008  
Number of Days to Update: 39

Source: EPA  
Telephone: 202-566-0500  
Last EDR Contact: 02/02/2009  
Next Scheduled EDR Contact: 05/04/2009  
Data Release Frequency: Annually

## MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/03/2008  
Date Data Arrived at EDR: 10/15/2008  
Date Made Active in Reports: 11/19/2008  
Number of Days to Update: 35

Source: Nuclear Regulatory Commission  
Telephone: 301-415-7169  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Quarterly

## RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/28/2008  
Date Data Arrived at EDR: 10/29/2008  
Date Made Active in Reports: 12/08/2008  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-343-9775  
Last EDR Contact: 01/30/2009  
Next Scheduled EDR Contact: 04/27/2009  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/30/2008	Source: EPA
Date Data Arrived at EDR: 10/31/2008	Telephone: (303) 312-6312
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 12/29/2008
Number of Days to Update: 53	Next Scheduled EDR Contact: 03/30/2009
	Data Release Frequency: Quarterly

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005	Source: EPA/NTIS
Date Data Arrived at EDR: 03/06/2007	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2007	Last EDR Contact: 02/19/2009
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/08/2009
	Data Release Frequency: Biennially

## SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 12/08/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/09/2008	Telephone: 615-532-8599
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 97	Next Scheduled EDR Contact: 05/11/2009
	Data Release Frequency: Varies

## STATE AND LOCAL RECORDS

### WY SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A	Source: Department of Environmental Quality
Date Data Arrived at EDR: N/A	Telephone: 307-777-7752
Date Made Active in Reports: N/A	Last EDR Contact: 03/16/2009
Number of Days to Update: N/A	Next Scheduled EDR Contact: 06/15/2009
	Data Release Frequency: N/A

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CO SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A	Source: Department of Public Health & Environment
Date Data Arrived at EDR: N/A	Telephone: 303-692-3300
Date Made Active in Reports: N/A	Last EDR Contact: 03/16/2009
Number of Days to Update: N/A	Next Scheduled EDR Contact: 06/15/2009
	Data Release Frequency: N/A

CO METHANE SITE: Methane Site Investigations - Jefferson County 1980

The objectives of the study are to define as closely as possible the boundaries of methane producing solid waste landfills.

Date of Government Version: 12/31/1980	Source: Jefferson County Health Department
Date Data Arrived at EDR: 02/13/1995	Telephone: 303-239-7175
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

WY SWF/LF: Solid Waste Facility Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 11/03/2006	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/28/2006	Telephone: 307-777-7752
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 12/23/2008
Number of Days to Update: 32	Next Scheduled EDR Contact: 03/23/2009
	Data Release Frequency: Varies

CO SWF/LF: Solid Waste Sites & Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 10/14/2008	Source: Department of Public Health & Environment
Date Data Arrived at EDR: 12/23/2008	Telephone: 303-692-3300
Date Made Active in Reports: 01/30/2009	Last EDR Contact: 03/05/2009
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/01/2009
	Data Release Frequency: Annually

CO METHANE INVESTIGATION: Methane Gas & Swamp Findings

The primary objective of this study was to assess methane gas related hazards at selected landfill sites in Colorado. These sites were selected by the Colorado Department of Health following evaluation of responses received from County and Municipal agencies about completed and existing landfills within their jurisdiction.

Date of Government Version: 03/15/1979	Source: Department of Health
Date Data Arrived at EDR: 02/13/1995	Telephone: 303-640-3335
Date Made Active in Reports: 04/04/1995	Last EDR Contact: 01/27/1995
Number of Days to Update: 50	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CO HISTORICAL LANDFILL: Historical Landfill List

Abandoned/Inactive Landfills.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/31/1993  
Date Data Arrived at EDR: 04/24/1994  
Date Made Active in Reports: 05/30/1994  
Number of Days to Update: 36

Source: Department of Public Health & Environment  
Telephone: 303-692-3300  
Last EDR Contact: 09/05/1996  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## CO LUST: Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/13/2009  
Date Data Arrived at EDR: 01/14/2009  
Date Made Active in Reports: 01/30/2009  
Number of Days to Update: 16

Source: Department of Labor and Employment, Oil Inspection Section  
Telephone: 303-318-8521  
Last EDR Contact: 01/14/2009  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Quarterly

## WY LTANKS: Known Contaminated Sites

Leaking storage tank sites.

Date of Government Version: 10/07/2008  
Date Data Arrived at EDR: 11/25/2008  
Date Made Active in Reports: 02/12/2009  
Number of Days to Update: 79

Source: Department of Environmental Quality  
Telephone: 307-777-7781  
Last EDR Contact: 11/06/2008  
Next Scheduled EDR Contact: 02/02/2009  
Data Release Frequency: Annually

## CO TRUST: Lust Trust Sites

Reimbursement application package. The 1989 Colorado General Assembly established Colorado's Petroleum Storage Tank Fund. The Fund reimburses eligible applicants for allowable costs incurred in cleaning up petroleum contamination from underground and aboveground petroleum storage tanks, as well as for third-party liability expenses. Remediation of contamination caused by railroad or aircraft fuel is not eligible for reimbursement. The Fund satisfies federal Environmental Protection Agency financial assurance requirements. Monies in the Fund come from various sources, predominantly the state environmental surcharge imposed on all petroleum products except railroad or aircraft fuel.

Date of Government Version: 11/17/2008  
Date Data Arrived at EDR: 11/17/2008  
Date Made Active in Reports: 12/01/2008  
Number of Days to Update: 14

Source: Department of Labor and Employment, Oil Inspection Section  
Telephone: 303-318-8521  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 04/19/2009  
Data Release Frequency: Varies

## WY UST: Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/23/2008  
Date Data Arrived at EDR: 07/24/2008  
Date Made Active in Reports: 08/12/2008  
Number of Days to Update: 19

Source: Department of Environmental Quality  
Telephone: 307-777-7781  
Last EDR Contact: 02/02/2009  
Next Scheduled EDR Contact: 05/04/2009  
Data Release Frequency: Annually

## CO UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/09/2008  
Date Data Arrived at EDR: 12/10/2008  
Date Made Active in Reports: 02/26/2009  
Number of Days to Update: 78

Source: Department of Labor and Employment, Oil Inspection Section  
Telephone: 303-318-8521  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Quarterly

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CO LAST: Leaking Aboveground Storage Tank Listing  
A listing of leaking aboveground storage tank sites.

Date of Government Version: 01/27/2009	Source: Department of Labor & Employment
Date Data Arrived at EDR: 01/30/2009	Telephone: 303-318-8525
Date Made Active in Reports: 02/23/2009	Last EDR Contact: 12/29/2008
Number of Days to Update: 24	Next Scheduled EDR Contact: 03/30/2009
	Data Release Frequency: Varies

WY AST: Wyoming Aboveground Storage Tanks  
Registered Aboveground Storage Tanks.

Date of Government Version: 05/23/2008	Source: Department of Environmental Quality
Date Data Arrived at EDR: 07/24/2008	Telephone: 307-777-7781
Date Made Active in Reports: 08/13/2008	Last EDR Contact: 02/02/2009
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/04/2009
	Data Release Frequency: Annually

CO AST: Aboveground Tank List  
Aboveground storage tank locations.

Date of Government Version: 12/09/2008	Source: Department of Labor and Employment, Oil Inspection Section
Date Data Arrived at EDR: 12/10/2008	Telephone: 303-318-8521
Date Made Active in Reports: 02/26/2009	Last EDR Contact: 12/29/2008
Number of Days to Update: 78	Next Scheduled EDR Contact: 03/30/2009
	Data Release Frequency: Semi-Annually

WY SPILLS: SPILL Database  
Spills reported to the Department of Environmental Quality

Date of Government Version: 12/31/2008	Source: Department of Environmental Quality
Date Data Arrived at EDR: 03/12/2009	Telephone: 307-777-7783
Date Made Active in Reports: 03/19/2009	Last EDR Contact: 03/09/2009
Number of Days to Update: 7	Next Scheduled EDR Contact: 06/08/2009
	Data Release Frequency: Varies

CO ERNS: Spills Database  
State reported spills.

Date of Government Version: 01/25/2009	Source: Department of Public Health and Environmental
Date Data Arrived at EDR: 01/27/2009	Telephone: 303-692-2000
Date Made Active in Reports: 02/02/2009	Last EDR Contact: 01/26/2009
Number of Days to Update: 6	Next Scheduled EDR Contact: 04/27/2009
	Data Release Frequency: Quarterly

WY INST CONTROL: Sites with Institutional Controls  
Voluntary Remediation Program sites with institutional Controls in place.

Date of Government Version: 12/11/2008	Source: Department of Environmental Quality
Date Data Arrived at EDR: 02/17/2009	Telephone: 307-777-7752
Date Made Active in Reports: 03/19/2009	Last EDR Contact: 03/17/2009
Number of Days to Update: 30	Next Scheduled EDR Contact: 06/15/2009
	Data Release Frequency: Varies

CO AUL: Environmental Real Covenants List  
Activity and use limitations include both engineering controls and institutional controls. The Colorado Department of Public Health and Environment to approve requests to restrict the future use of a property using an enforceable agreement called an environmental real covenant. When a contaminated site is not cleaned up completely, land use restrictions may be used to ensure that the selected cleanup remedy is adequately protective of human health and the environment.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/16/2008  
Date Data Arrived at EDR: 12/16/2008  
Date Made Active in Reports: 01/30/2009  
Number of Days to Update: 45

Source: Department of Public Health & Environment  
Telephone: 303-692-3331  
Last EDR Contact: 03/23/2009  
Next Scheduled EDR Contact: 05/25/2009  
Data Release Frequency: Varies

## WY VCP: List of Voluntary Remediation Program Sites

A listing of sites participating in the Voluntary Remediation Program.

Date of Government Version: 12/11/2008  
Date Data Arrived at EDR: 02/17/2009  
Date Made Active in Reports: 03/19/2009  
Number of Days to Update: 30

Source: Department of Environmental Quality  
Telephone: 307-777-5447  
Last EDR Contact: 03/17/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Varies

## CO VCP: Voluntary Cleanup & Redevelopment Act Application Tracking Report

The Voluntary Cleanup and Redevelopment Act is intended to permit and encourage voluntary cleanups by providing a method to determine clean-up responsibilities in planning the reuse of property. The VCRA was intended for sites which were not covered by existing regulatory programs.

Date of Government Version: 04/01/2008  
Date Data Arrived at EDR: 04/23/2008  
Date Made Active in Reports: 05/16/2008  
Number of Days to Update: 23

Source: Department of Public Health and Environmental  
Telephone: 303-692-3331  
Last EDR Contact: 02/03/2009  
Next Scheduled EDR Contact: 05/04/2009  
Data Release Frequency: Semi-Annually

## CO DRYCLEANERS: Drycleaner Facilities

A listing of drycleaning facilities.

Date of Government Version: 01/12/2009  
Date Data Arrived at EDR: 01/13/2009  
Date Made Active in Reports: 02/23/2009  
Number of Days to Update: 41

Source: Department of Public Health & Environment  
Telephone: 303-692-3213  
Last EDR Contact: 01/12/2009  
Next Scheduled EDR Contact: 04/13/2009  
Data Release Frequency: Varies

## WY BROWNFIELDS: Brownfields Sites Listing

A listing of Brownfields sites locations. Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment.

Date of Government Version: 12/16/2008  
Date Data Arrived at EDR: 02/17/2009  
Date Made Active in Reports: 03/19/2009  
Number of Days to Update: 30

Source: Department of Environmental Quality  
Telephone: 307-777-7752  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Varies

## WY CDL: Clandestine Drug Lab Site Locations

Information collected by the Wyoming Department of Health concerning Drug Lab Sites.

Date of Government Version: 12/01/2008  
Date Data Arrived at EDR: 01/07/2009  
Date Made Active in Reports: 02/12/2009  
Number of Days to Update: 36

Source: Department of Health  
Telephone: 307-777-8736  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Varies

## CO CDL: Meth Lab Locations

Meth lab locations that were reported to the Department of Public Health & Environment.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/20/2007  
Date Data Arrived at EDR: 08/22/2007  
Date Made Active in Reports: 09/18/2007  
Number of Days to Update: 27

Source: Department of Public Health and Environment  
Telephone: 303-692-3023  
Last EDR Contact: 01/26/2009  
Next Scheduled EDR Contact: 04/27/2009  
Data Release Frequency: Quarterly

## CO NPDES: Permitted Facility Listing

A listing of permitted facilities from the Water Quality Control Division.

Date of Government Version: 08/26/2008  
Date Data Arrived at EDR: 08/27/2008  
Date Made Active in Reports: 09/04/2008  
Number of Days to Update: 8

Source: Department of Public Health & Environment  
Telephone: 303-692-3611  
Last EDR Contact: 03/09/2009  
Next Scheduled EDR Contact: 05/25/2009  
Data Release Frequency: Varies

## CO AIRS: Permitted Facility & Emissions Listing

A listing of Air Pollution Control Division permits and emissions data.

Date of Government Version: 01/07/2009  
Date Data Arrived at EDR: 01/09/2009  
Date Made Active in Reports: 01/30/2009  
Number of Days to Update: 21

Source: Department of Public Health & Environment  
Telephone: 303-692-3213  
Last EDR Contact: 12/29/2008  
Next Scheduled EDR Contact: 03/30/2009  
Data Release Frequency: Varies

## CO UMTRA: Uranium Mill Tailings Sites

There were nine uranium mill tailings sites in Colorado designated for cleanup under the federal Uranium Mill Tailings Radiation Control Act. These nine sites, know commonly as UMTRA sites, were remediated jointly by the State of Colorado and the U.S. Department of Energy during the late 1980's and early 1990's. Mill tailings were removed from 8 of the mill sites and relocated in engineered disposal cells. A disposal cell is designed to encapsulate the material, reduce radon emanation, and prevent the movement of water through the material. At one site, Maybell, CO, the tailings were stabilized in-place at the mill site. After remediation of the tailings was completed, the State and DOE began to investigate the residual impacts to groundwater at the mill sites. The groundwater phase of the UMTRA program is on-going.

Date of Government Version: 11/23/2004  
Date Data Arrived at EDR: 03/21/2007  
Date Made Active in Reports: 05/02/2007  
Number of Days to Update: 42

Source: Department of Public Health & Environment  
Telephone: 970-248-7164  
Last EDR Contact: 03/16/2009  
Next Scheduled EDR Contact: 06/15/2009  
Data Release Frequency: Varies

## WY SHWF: Solid & Hazardous Waste Facility Database

A listing of Solid and Hazardous waste facility locations in the state.

Date of Government Version: 11/03/2006  
Date Data Arrived at EDR: 01/24/2007  
Date Made Active in Reports: 03/22/2007  
Number of Days to Update: 57

Source: Department of Environmental Quality  
Telephone: 307-777-7752  
Last EDR Contact: 12/23/2008  
Next Scheduled EDR Contact: 03/23/2009  
Data Release Frequency: Annually

## CO ASBESTOS: Asbestos Abatement & Demolition Projects

Asbestos abatement and demolition projects by the contractor.

Date of Government Version: 12/02/2008  
Date Data Arrived at EDR: 12/03/2008  
Date Made Active in Reports: 02/23/2009  
Number of Days to Update: 82

Source: Department of Public Health & Environment  
Telephone: 303-692-3100  
Last EDR Contact: 03/03/2009  
Next Scheduled EDR Contact: 06/01/2009  
Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## TRIBAL RECORDS

### INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 02/06/2009
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/04/2009
	Data Release Frequency: Semi-Annually

### INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 02/23/2009
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: Varies

### INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/02/2008	Source: EPA Region 8
Date Data Arrived at EDR: 12/04/2008	Telephone: 303-312-6271
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 19	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

### INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008	Source: EPA Region 7
Date Data Arrived at EDR: 12/03/2008	Telephone: 913-551-7003
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/20/2009
Number of Days to Update: 20	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

### INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 06/06/2008	Source: EPA Region 4
Date Data Arrived at EDR: 10/09/2008	Telephone: 404-562-8677
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Semi-Annually

### INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009	Source: EPA Region 1
Date Data Arrived at EDR: 02/19/2009	Telephone: 617-918-1313
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 25	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

### INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 12/15/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2008	Telephone: 415-972-3372
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 90	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/18/2008	Source: EPA Region 10
Date Data Arrived at EDR: 11/19/2008	Telephone: 206-553-2857
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land  
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 02/15/2009	Source: EPA Region 6
Date Data Arrived at EDR: 02/27/2009	Telephone: 214-665-6597
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 17	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009	Source: EPA, Region 1
Date Data Arrived at EDR: 02/19/2009	Telephone: 617-918-1313
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 25	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 06/06/2008	Source: EPA Region 4
Date Data Arrived at EDR: 10/09/2008	Telephone: 404-562-9424
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008	Source: EPA Region 5
Date Data Arrived at EDR: 09/19/2008	Telephone: 312-886-6136
Date Made Active in Reports: 10/16/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/25/2008	Source: EPA Region 6
Date Data Arrived at EDR: 11/26/2008	Telephone: 214-665-7591
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008	Source: EPA Region 7
Date Data Arrived at EDR: 12/30/2008	Telephone: 913-551-7003
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/20/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

## INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 12/01/2008	Source: EPA Region 8
Date Data Arrived at EDR: 12/04/2008	Telephone: 303-312-6137
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 19	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

## INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/15/2008	Source: EPA Region 9
Date Data Arrived at EDR: 12/16/2008	Telephone: 415-972-3368
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 90	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

## INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/18/2008	Source: EPA Region 10
Date Data Arrived at EDR: 11/19/2008	Telephone: 206-553-2857
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

## INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008	Source: EPA, Region 1
Date Data Arrived at EDR: 04/22/2008	Telephone: 617-918-1102
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 01/19/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/19/2009
	Data Release Frequency: Varies

## INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 01/19/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/19/2009
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## EDR PROPRIETARY RECORDS

### Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/27/2009  
Date Data Arrived at EDR: 02/25/2009  
Date Made Active in Reports: 03/12/2009  
Number of Days to Update: 15

Source: Department of Environmental Conservation  
Telephone: 518-402-8651  
Last EDR Contact: 02/25/2009  
Next Scheduled EDR Contact: 05/25/2009  
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

### AHA Hospitals:

Source: American Hospital Association, Inc.  
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services  
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

### Nursing Homes

Source: National Institutes of Health  
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

### Public Schools

Source: National Center for Education Statistics  
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

### Daycare Centers: Day Care Provider List

Source: Department of Family Services

Telephone: 307-777-6595

**Flood Zone Data:** This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

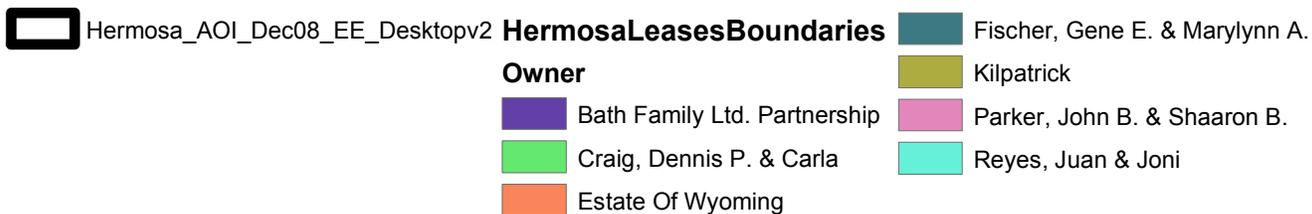
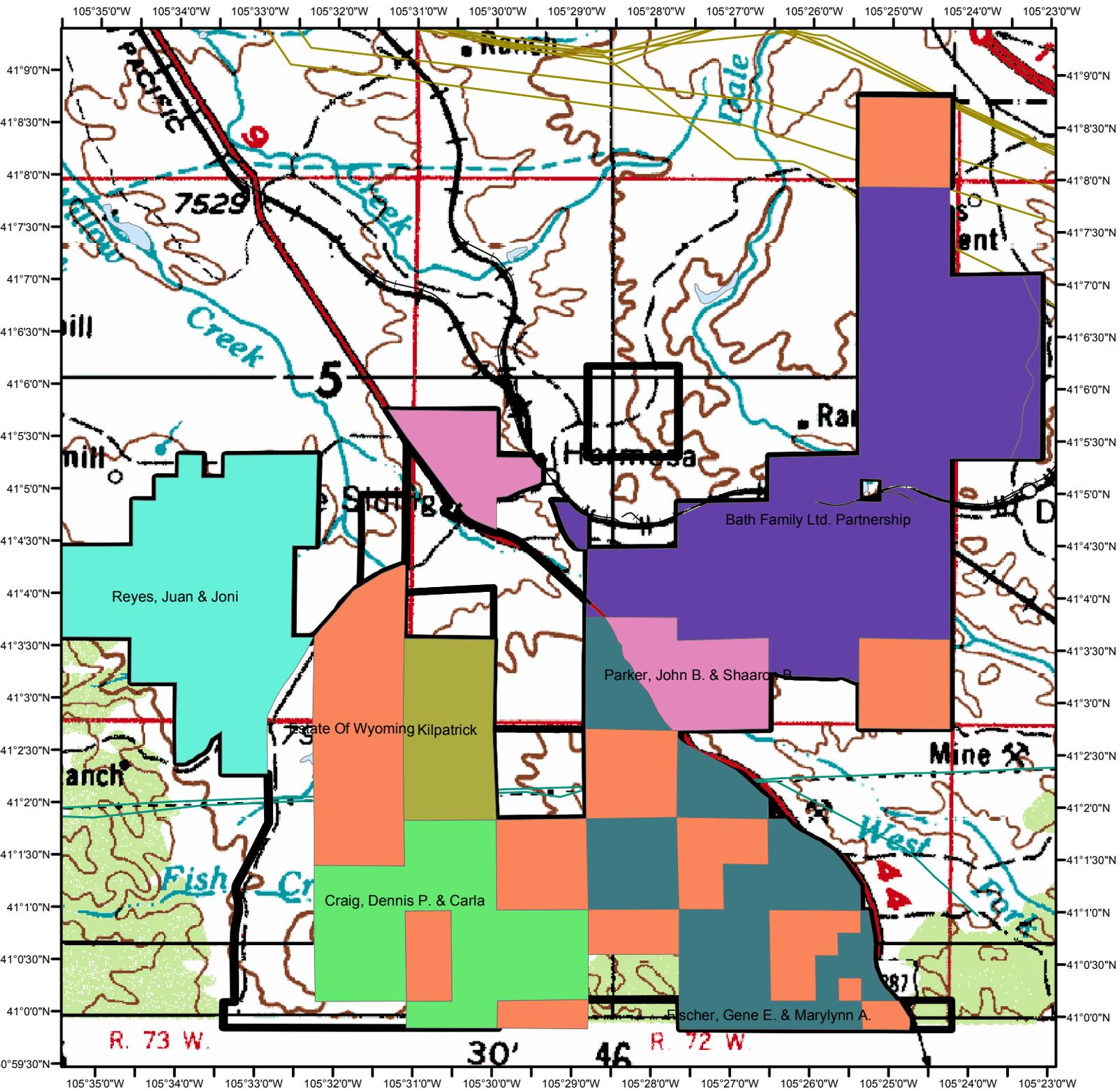
**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

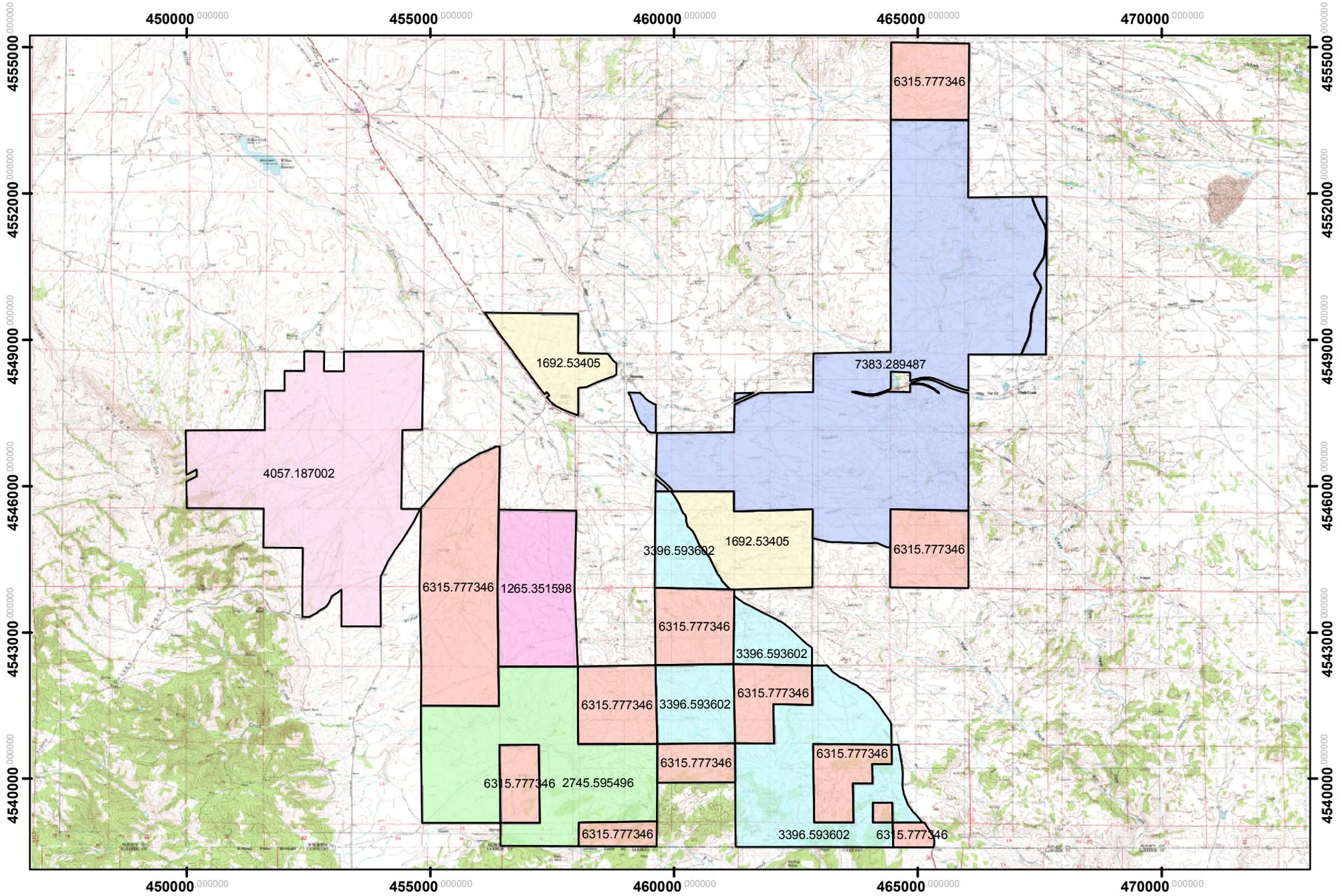
### **STREET AND ADDRESS INFORMATION**

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# B

## Landowner Lease Map



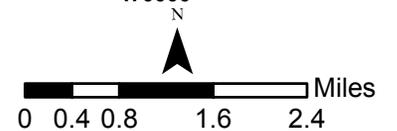


**Acreage of Leases Boundaries  
Hermosa Wind Project  
Albany County, Wyoming**

**Source:  
2002 Color Infra Red Digital Orthophoto Quads**

**Hermosa Leases Boundaries**

- |  |  |
|--|--|
|  Bath Family Ltd. Partnership   |  Kilpatrick                   |
|  Craig, Dennis P. & Carla       |  Parker, John B. & Shaaron B. |
|  Estate Of Wyoming              |  Reyes, Juan & Joni           |
|  Fischer, Gene E. & Marylynn A. |  |



# C

## Photographic Documentation

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#1</b> View of the eastern property boundary showing the Subject Property (SP) on the right.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> S</p>	
<p><b>GPS Point</b> 2</p>	
<p><b>#2</b> View of County Road (CR) 222 (Monument Road) heading in to the Wyoming State- owned land in the northeast portion of the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 2</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#3</b> View of a SP wetland, showing an adjacent residential property in the background.</p>	 A landscape photograph showing a wetland area with green and brown vegetation in the foreground. In the background, a small, dark-colored house is visible on a slight rise, surrounded by more vegetation and rolling hills under a clear sky.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> ENE</p>	
<p><b>GPS Point</b> 3</p>	
<p><b>#4</b> View of a radio tower on the SP near CR 234.</p>	 A photograph of a tall, lattice-structured radio tower situated on a grassy hill. The tower is supported by several guy wires extending to the ground. The background shows a clear blue sky and a flat horizon line with some distant structures.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SSW</p>	
<p><b>GPS Point</b> 4</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#5</b> View of the radio tower (2) and power supply on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SW</p>	
<p><b>GPS Point</b> 5</p>	
<p><b>#6</b> A pole-mounted transformer on Bath Family Ltd. Partnership (Bath) property within the SP boundary.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SW</p>	
<p><b>GPS Point</b> 5</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#7</b> View of a MET tower on the SP near the aforementioned radio tower and transformer.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 5</p>	
<p><b>#8</b> View of a typical two-track road on the Bath property within the SP boundary.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 7</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#9</b> View of a dilapidated cabin on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> S</p>	
<p><b>GPS Point</b> 8</p>	
<p><b>#10</b> View of a stockyard/ corral on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NE</p>	
<p><b>GPS Point</b> 8</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#11</b> View along east adjacent property boundary, showing the SP on the right.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> S</p>	
<p><b>GPS Point</b> 11</p>	
<p><b>#12</b> View along adjacent property boundary showing the SP on the left.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> E</p>	
<p><b>GPS Point</b> 11</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#13</b> View of adjacent property from a fence line showing scrap piles and a drainage feature.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NW</p>	
<p><b>GPS Point</b> 12</p>	
<p><b>#14</b> Another view of the adjacent property and scrap pile.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 12</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#15</b> View along Union Pacific railroad ROW on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 13</p>	
<p><b>#16</b> View of two full cans of liquid, which appeared to be oil for railroad switch maintenance.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 14</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#17</b> View of Dale Junction, next to a rail switch on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NW</p>	
<p><b>GPS Point</b> 16</p>	
<p><b>#18</b> View of a propane tank at Dale Junction.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NW</p>	
<p><b>GPS Point</b> 16</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#19</b> View of power supply and pole-mounted transformers at Dale Junction.</p>	 A photograph showing a tall wooden utility pole with multiple cross-arms and insulators. To the right of the pole is a white metal utility shed with a sign that reads "DALE JCT. C.P. W 545". The background shows a rocky, hilly landscape under a blue sky with scattered clouds.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 16</p>	
<p><b>#20</b> View of empty oil buckets next to the railroad, showing lack of evidence of staining of the ground or stressed vegetation.</p>	 A photograph showing several empty, rusted metal oil buckets scattered on the ground. The ground is dry and sandy with sparse, dry vegetation. A dirt road or railroad track runs through the scene.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 17</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

**#21**  
View of an active quarry and equipment on the SP.

**Date**  
5/27/09

**Direction**  
S

**GPS Points**  
18



**#22**  
View of the same quarry showing a mobile, diesel fuel vessel for excavating equipment.

**Date**  
5/27/09

**Direction**  
WSW

**GPS Point**  
18



**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

**#23**  
View of a water storage tank on cattle pasture of the SP (Bath property).

**Date**  
5/27/09

**Direction**  
S

**GPS Point**  
20



**#24**  
View of the northern SP boundary, showing pasture. A portion of the SP is Parker property on the far right.

**Date**  
5/27/09

**Direction**  
E

**GPS Point**  
21



**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#25</b> Adjacent underground storage tank remediation site, according to the State of Wyoming.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SSW</p>	
<p><b>GPS Point</b> 22</p>	
<p><b>#26</b> View of SP grassland on Parker property.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> E</p>	
<p><b>GPS Point</b> 24</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#27</b> Cell phone tower and fuel gas tank on Fischer property of the SP.</p>	 A photograph showing a tall, lattice-structured cell phone tower on a hillside. In the foreground, there is a green utility box and a white cylindrical fuel gas tank. The area is enclosed by a chain-link fence. The sky is blue with scattered white clouds.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> N</p>	
<p><b>GPS Point</b> 25</p>	
<p><b>#28</b> Close up of the tank.</p>	 A close-up photograph of the white cylindrical fuel gas tank. The tank is situated on a rocky, sparsely vegetated hillside. A blue cap and a yellow hose are visible on top of the tank. In the background, a chain-link fence and the base of the cell phone tower are visible under a blue sky with light clouds.
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> N</p>	
<p><b>GPS Point</b> 25</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

**#29**  
View along  
transmission line  
on Fischer  
property of the  
SP.

**Date**  
5/27/09

**Direction**  
W

**GPS Point**  
26



**#30**  
View along a  
drainage basin on  
the SP.

**Date**  
5/27/09

**Direction**  
N

**GPS Point**  
27A



**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#31</b> View of a pond and ponderosa pine forest on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> S</p>	
<p><b>GPS Point</b> 29</p>	
<p><b>#32</b> View of scrap metal, empty drums, trash, conduits, empty cans and containers, appliances, metal troughs, etc. on the Fischer property of the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SW</p>	
<p><b>GPS Point</b> 29</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#33</b> View of same dump showing an empty pesticide drum and other empty containers.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SE</p>	
<p><b>GPS Point</b> 29</p>	
<p><b>#34</b> Another view of the same dump and road on the SP.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SW</p>	
<p><b>GPS Point</b> 29</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#35</b> Another view of the same dump.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NE</p>	
<p><b>GPS Point</b> 29</p>	
<p><b>#36</b> Another view of the same dump area.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> SW</p>	
<p><b>GPS Point</b> 29</p>	

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#37</b> View of SP topography on State of Wyoming land.</p>			
<p><b>Date</b> 5/27/09</p>			
<p><b>Direction</b> SE</p>			
<p><b>GPS Point</b> 30</p>			
<p><b>#38</b> View of a SP wetland and waterfowl on state land.</p>			
<p><b>Date</b> 5/27/09</p>			
<p><b>Direction</b> S</p>			
<p><b>GPS Point</b> 33</p>			

**Hermosa Wind Project  
Albany County, Wyoming  
Photographic Documentation**

<p><b>#39</b> View of SP topography on Reyes' land near the southwestern boundary.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> NW</p>	
<p><b>GPS Point</b> 34</p>	
<p><b>#40</b> View of a SP pipeline marker and hatch near the boundary of Bath property and state land.</p>	
<p><b>Date</b> 5/27/09</p>	
<p><b>Direction</b> W</p>	
<p><b>GPS Point</b> 35</p>	

# D

## State and Local Records

**From:** Laughlin, Laura [LLAUGH@wyo.gov]  
**Sent:** Monday, March 30, 2009 10:39 AM  
**To:** Grieser, Joseph K.  
**Cc:** Guille, Keith  
**Subject:** RE: Open Records Search  
**RE: Freedom of Information Request**

Dear Mr. Grieser:

Per your request, all files in the Wyoming Department of Environmental Quality (DEQ) are open to the public unless they are found to be confidential under W.S. 35-11-1101. However, we do not have a method to rapidly retrieve information on companies, individuals or particular subjects. Very little of our data is automated. You or your representatives may search our files, and our office will make the appropriate arrangements, including provisions for copying documents. You may contact the UST Program at 307-777-7095 to schedule this. Absent such an arrangement we are unable to provide the information you have requested.

Sincerely,

Laura Laughlin, Executive Secretary

---

**From:** Grieser, Joseph K. [mailto:JGrieser@ene.com]  
**Sent:** Monday, March 30, 2009 9:23 AM  
**To:** Guille, Keith  
**Subject:** Open Records Search

To whom it may concern,

I would like to know the preferred method of how to make an open records search with your agency. I am interested in finding any spill/release/leaking UST/reported violations information regarding a large area of land southeast of Laramie, WY.

Please let me know how to proceed.

Thank you. Respectfully,

**Joseph K. Grieser**  
***ecology and environment, inc.***  
1412 Main Street, Suite 1500  
Dallas, Texas 75202  
Office 214-245-1000 Ext. 4206  
Fax 214-245-1001

Field/Cell 214-471-8292

E-mail [jgrieser@ene.com](mailto:jgrieser@ene.com)  
[www.ene.com](http://www.ene.com)



Please consider the impact to the environment before printing this e-mail.

**From:** Lucht, Bob [blucht@wyo.gov]  
**Sent:** Thursday, August 06, 2009 3:08 PM  
**To:** Grieser, Joseph K.  
**Subject:** RE: Past Railroad Spill

I doubt very much that this department has any record of a spill in 1979. The department was set up in 1975, and until very recently, there was no centralized database of spills of any kind. Even records from two years ago are not in any form that can be easily accessed.

---

**From:** Grieser, Joseph K. [mailto:JGrieser@ene.com]  
**Sent:** Thursday, August 06, 2009 1:22 PM  
**To:** Lucht, Bob  
**Subject:** Past Railroad Spill

Mr. Lucht,  
Would you be able to provide me with a contact that would know anything about a phosphorus spill in 1979 along the Union Pacific line near Hermosa? Any help would be greatly appreciated.  
Thank you.

**Joseph K. Grieser**  
**ecology and environment, inc.**  
1412 Main Street, Suite 1500  
Dallas, Texas 75202  
Office 214-245-1000 Ext. 4206  
Fax 214-245-1001

Field/Cell 214-471-8292

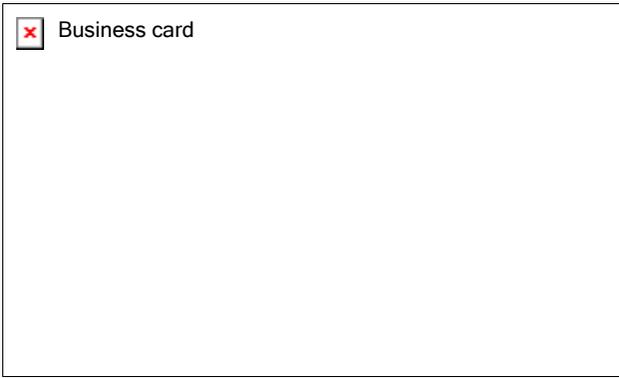
E-mail [jgrieser@ene.com](mailto:jgrieser@ene.com)  
[www.ene.com](http://www.ene.com)



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**From:** Lucht, Bob [mailto:blucht@wyo.gov]  
**Sent:** Monday, March 30, 2009 12:47 PM  
**To:** Grieser, Joseph K.  
**Subject:** TIE SIDING - FACILITY 0-000834



(307) 777-7095 , (307) 777-5973 FAX, (307) 220-1350 Cell

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

**From:** Nancy Bath [nlbath@hotmail.com]  
**Sent:** Saturday, August 15, 2009 7:46 AM  
**To:** Grieser, Joseph K.  
**Subject:** RE: scans

Joe,

My husband contacted the author of the report. He agreed to visit with you at his office number. His name is Steve Williams at the University of Wyoming, the number is 307-766-5587. Hopefully this will help you.

Nancy Bath

---

Subject: RE: scans  
Date: Wed, 12 Aug 2009 12:19:08 -0500  
From: JGrieser@ene.com  
To: nlbath@hotmail.com

Nancy,

Do you know who did the sampling and wrote the report that you have sent part (map plus one page of recommendations) of to me? Any more information about the report would be greatly appreciated, as I was unaware that any sampling had occurred. Also, do you have a copy of the whole report?

Please let me know.

Respectfully,

Joe

**Joseph K. Grieser**  
**ecology and environment, inc.**

1412 Main Street, Suite 1500

Dallas, Texas 75202

Office 214-245-1000 Ext. 4206

Fax 214-245-1001

Field/Cell 214-471-8292

E-mail [jgrieser@ene.com](mailto:jgrieser@ene.com)

[www.ene.com](http://www.ene.com)



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---

**From:** Nancy Bath [mailto:nlbath@hotmail.com]  
**Sent:** Monday, August 10, 2009 6:00 PM  
**To:** Grieser, Joseph K.  
**Subject:** FW: scans

Joe,

I couldn't open these pdf files. Please let me know if you can, otherwise I will contact Kinko's and ask them to send them in a different format. If you have any further questions, please let me know.

Nancy Bath

> Date: Mon, 10 Aug 2009 15:38:05 -0600  
> From: usa1603@fedex.com  
> Subject: scans  
> To: nlbath@hotmail.com

**From:** Stephen E. Williams [SEWms@uwyo.edu]  
**Sent:** Wednesday, August 26, 2009 11:06 AM  
**To:** Grieser, Joseph K.  
**Subject:** RE: Phosphorus Spill

**Follow Up Flag:** Follow up  
**Flag Status:** Red

Joe:

Here is information and the contact information you requested regarding the work I did on the 1-22-1979 phosphorus spill at Tie Siding (Mile Post 545).

First, there were two tank cars of white, elemental phosphorus involved in the incident.

Second, the person I dealt with the most was with Union Pacific out of their Omaha Office, although I also worked with one of their legal experts too.

Dr. P. L. Stageman (Phillip)  
Environmental Engineer  
Union Pacific railroad  
1416 Dodge Street  
Omaha, Nebraska 68102

I do not have a phone number for Dr. Stageman.

C. Barry Schaefer  
V.P.- Law  
Same address as Stageman.

Third, I worked also with Darrell Detterling in the UP Cheyenne office. I do not have an address for him but his phone number then was 307-634-4421.

Fourth, there was some interaction with DEQ through a Geologist with them named Tony Mancini. I have no contact information for him.

Fifth, my recollection is that someone did treat the areas with lime according to my recommendations fairly shortly after I completed my study. I did not witness this treatment, but I recall an individual from UP indicating they had followed up on this and done the treatment.

Lastly, I really cannot say with much certainty or credibility as to the disposition of elemental phosphorus or phosphates at the milepost 545 site, since I have not done any analysis of the site since the original work done in 1979.

It would be fairly straight forward to revisit the site, take some soil samples (including subsurface samples) and determine phosphates and pH. Determination of elemental phosphorus would be a little more involved, but Monzanto, who owned the elemental P involved in the incident, did the elemental P analysis and it is likely they still do this sort of analysis.

I wish I could provide email addresses or even FAX numbers for the individuals above, but this work was done before either of these modes of communication had come into usage.

Steve

Stephen E. Williams  
Professor, Soil Biology and Biochemistry  
Department of Renewable Resources  
Room 17, Agriculture Building  
The University of Wyoming  
Laramie, Wyoming 82071  
307-766-5587

---

**From:** Grieser, Joseph K. [mailto:JGrieser@ene.com]  
**Sent:** Monday, August 24, 2009 9:30 AM  
**To:** Stephen E. Williams  
**Subject:** RE: Phosphorus Spill

Thank you very much Steve.

---Joe

**Joseph K. Grieser**  
**ecology and environment, inc.**  
1412 Main Street, Suite 1500  
Dallas, Texas 75202  
Office 214-245-1000 Ext. 4206  
Fax 214-245-1001

Field/Cell 214-471-8292

E-mail [jgrieser@ene.com](mailto:jgrieser@ene.com)  
[www.ene.com](http://www.ene.com)



Please consider the impact to the environment before printing this e-mail.

---

**From:** Stephen E. Williams [mailto:SEWms@uwyo.edu]  
**Sent:** Monday, August 24, 2009 10:29 AM  
**To:** Grieser, Joseph K.  
**Subject:** Phosphorus Spill

Joe: This communication is just to be sure we are in email contact. I will get the information to you regarding the spill information tomorrow.

Steve

Stephen E. Williams  
Professor, Soil Biology and Biochemistry  
Wyoming Reclamation and Restoration Center  
&  
Department of Renewable Resources  
Room 17, Agriculture Building  
The University of Wyoming  
Laramie, Wyoming 82071

THE **GOOD MORNING!** DAILY **Boomerang**  
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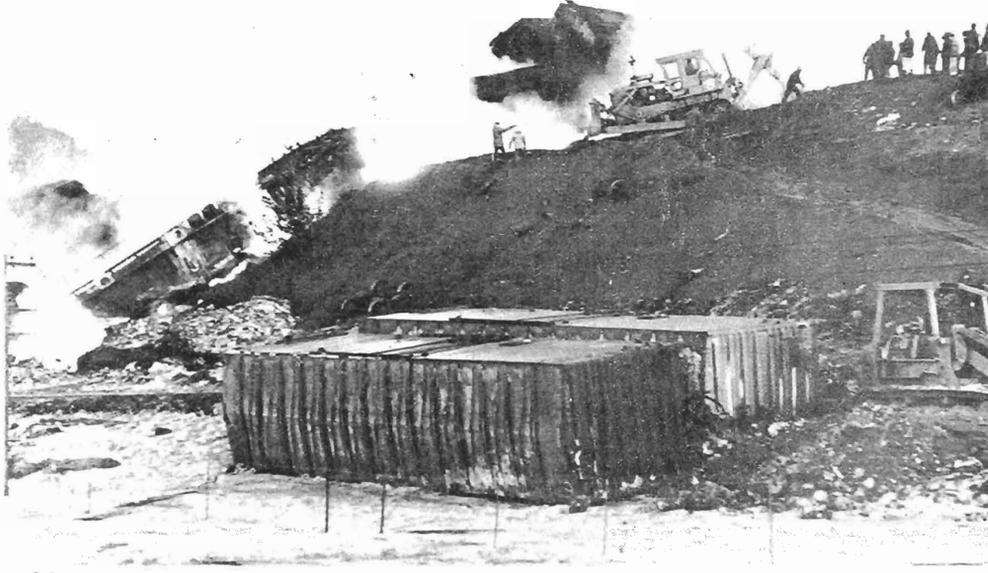
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Laramie, Wyoming, Wednesday, January 24, 1979

15c A COPY



DENSE WHITE SMOKE continues Tuesday evening to pour from the scene of a Union Pacific freight train derailment near Tie Siding. Investigating and cleanup crews are waiting for the blaze to burn itself out so that the cause of the derailment may be determined and the tracks—along one of the UP's major

transportation arteries—cleared. Demolition experts Tuesday morning blew a hole in one end of a tank still burning, in hopes of dissipating the chemical and allowing it to burn more quickly so track clearing and repair operations may begin.

(Boomerang photo by Stoesz)

## Carter Calls for 'New Foundations'

WASHINGTON (UPI) — President Carter said Tuesday Americans are enjoying greater prosperity than ever but must build "a new foundation" for the 21st century by beating inflation and supporting a new U.S.-Soviet SALT accord.

In his second State of the Union address, Carter said inflation can be controlled without recession and promised he will only sign a strategic arms pact that leaves the United States with "overwhelming" nuclear strength.

Assembled in joint session for the annual, nationally televised pageant, Congress gave the president the customary, long standing ovations as he entered and left the House chamber, and interrupted him about 25 times to applaud his 33 minute address.

He marked the halfway point of his presidency with a speech devoted more to inspirational passages than specific proposals—except for hard assurances on SALT treaty terms—and departed only occasionally from the text he had been moulding for weeks with White House advisers.

One ad-lib, however, provoked one of the longest and loudest bursts of applause, when he rounded out a promise to control inflation by adding, "That's our most important domestic issue, and we must do it together."

Early reaction was predictably mixed and much of it appeared geared more in response to the pared-down, \$31.6 billion federal budget proposal Carter announced Monday than to the State of the Union address.

Rep. John Brademas of Indiana, the House Democratic whip, reflected the view of Carter's congressional allies in saying his speech "concretely sets forth the major problems of the nation and outlines the difficult course we must pursue to reach our twin goals of peace and prosperity."

But House Republican Leader John Rhodes called the speech "a non-message" that failed to address specific issues, and Senate Republican Leader Howard Baker offered only faint praise, saying, "It wasn't the most inspiring speech I ever heard, but it probably wasn't the worst."

Sen. William Roth, R-Del., hit harder for the opposition. "Carter's 'New Foundation' is built on economic quicksand," he said. "He talks less government while promising more."

With Mrs. Carter and daughter Amy looking on from the gallery, the president reviewed familiar policy positions and repeatedly stressed one inspirational slogan—"building a new foundation"—as if he hoped to make it the hallmark phrase of his presidency.

Carter said that foundation must be anchored on "a strong economy with lower inflation" and no recession at home, and on U.S.-Soviet nuclear disarmament agreements abroad.

And he told Americans that, despite the woes of inflation and a decade of social upheavals, many of them have never had it so good.

"Tonight, there is every sign that the state of our Union is sound," he said. "Our economy offers greater prosperity to more of our people than ever before."

"Real per capita income and real business profits have risen substantially. Farm exports are setting all-time records, and farm income last year was up more than 25 percent."

"Our liberties are secure. Our military defenses are strong and growing stronger. And more importantly tonight, America is at peace."

Saying American society faces "more subtle, more complex" challenges now than the meat-and-potatoes economic and social issues of the past, he said:

"The challenge to us is to build a new and firmer foundation for the future—for a sound economy, for a more effective government, for political trust, and for a stable peace—so that the America our children inherit will be even stronger and better than our own."

Surprisingly, Carter devoted more time to drumming up support for the prospective U.S.-Soviet SALT II accord than he did discussing the specific economic issues now troubling Americans. But he hit the inflation issue first and hard.

## Explosives Used at Derailment Site

by Mike McCracken  
 Boomerang Staff Writer

An Army demolition team Tuesday morning blew a hole in a burning railroad tank car of phosphorous derailed southeast of Tie Siding in an effort to speed the dissipation of the chemical, on fire since the accident occurred early Monday.

Union Pacific tracks, part of a corridor running from Idaho to

Nebraska, have remained completely blocked by an estimated 25 to 30 of the derailed cars.

Thick smoke and fumes and the possibility of explosion from seven propane gas tanks in the vicinity have kept investigating and cleanup crews at bay and prevented an accurate estimation of the number of cars involved and the damage caused by the accident.

Railroad crews early Tuesday morning prepared a trench to catch the burning phosphorous—used in making military smoke bombs—released by the detonation.

Carried in a tank car and covered with a layer of water, the remaining phosphorous leaked from the ruptured tanker, spreading flames and smoke along the steep embankment at the side of the accident scene.

## Speed Limit Legislation Clears Second Hurdle

by E.T. McCLANAHAN  
 CHEYENNE, Wyo. (UPI) — Legislation to defy the federal government and raise Wyoming's speed limit to 65 mph passed another hurdle in the Senate Tuesday and exuberant supporters began talking about a groundswell of support from other Western states.

The measure received initial ap-

proval Monday on a 16-13 vote, won second-reading approval Tuesday and was scheduled for final consideration in Wednesday's session.

The chief backer of the bill, Sen. Cal Taggart, said it should gain even more support before Wednesday's roll-call vote. Sixteen votes are needed for final approval in the 30-member Senate.

"We've been on the phone all day

today (Tuesday) with about every state in the union," Taggart said. "They say they're 100 percent behind it."

Taggart said he has received calls from officials and lawmakers in Washington state, California, Oklahoma and New Mexico. The Republican from Lovell, Wyo., a small town in Wyoming's Big Horn Basin, also said he had been interviewed by newsmen from Idaho, California and had spoken to talk-show hosts in Chicago, Los Angeles and New York.

Sen. Dick Sedar, D-Natrona, said the bill's chances in the House depend on the support it gains in Wednesday's final Senate vote.

"The chances are better now, though," he said. "They tell me that since this hit the West Coast it's bigger than (Proposition) 13."

Sedar said the initial effort to increase the speed limit began three years ago in a meeting of the National Conference of State Legislators, when Wyoming, Nevada, Oklahoma and Texas attempted to push through a resolution urging Congress to eliminate the ceiling on speed limits.

"I think that after this maybe Washington might begin to get the idea," Sedar said. "If not this year then maybe next year."

The chief obstacle to the proposal is the federal threat of a cutoff of highway funds. In a recent memo to Taggart, a state highway official wrote: "According to federal law, the Secretary of Transportation shall not approve any project in any state which has a maximum speed limit on any public highway greater than 55 mph. Federal funds for fiscal year '79 which would, therefore, be jeopardized are about \$31.7 million." Backers of the bill said the state would sue the federal government if the highway money was cut off.

Although Taggart and Sedar were sketchy about the bill's fate in the House, it will be received coolly by at least one member: House Speaker Warren Morton, a Natrona County Republican.

Herschler's position on the issue has so far been clouded. In a recent news conference, he said he opposed the idea of federal directives but at the same time the thought of losing the state's highway money was "like watching your mother-in-law drive your new Cadillac off a cliff."

## Plans Under Way for Chinese Premier's Visit

By HELEN THOMAS  
 UPI White House Reporter

WASHINGTON (UPI) — Parts of the Broadway musical "Eubie" and the popular ballet "Rodeo" will be the featured entertainment at the gala planned Monday night in honor of Chinese Vice Premier Teng Hsiao-

proval Monday on a 16-13 vote, won second-reading approval Tuesday and was scheduled for final consideration in Wednesday's session.

The chief backer of the bill, Sen. Cal Taggart, said it should gain even more support before Wednesday's roll-call vote. Sixteen votes are needed for final approval in the 30-member Senate.

"We've been on the phone all day

## Winds Rip Midwest

By United Press International

High winds ripped through the nation's midsection Tuesday, stirring up dust clouds in western Texas and pushing a major snow storm into the blizzard-weary Midwest.

The storm dumped up to 10 inches of snow on southeastern Minnesota, now dubbed the land of 10,000 frozen lakes. Up to nine inches covered parts of northern Wisconsin and four inches fell in six hours at Park Falls, Wis.

Chicago, hit with nearly 67 inches of snow this winter, braced for another four inches by Wednesday.

Snow stretched across the Texas Panhandle, through most of Oklahoma and eastern Kansas, into the northern half of the Mississippi Valley and the Upper Great Lakes.

At least two deaths were blamed on the ice-slicked roads of northwest Missouri. One accident involved three tractor-trailer trucks near Liberty in Clay County.

Wind gusts in excess of 40 mph ranged from the Texas Panhandle to southern Kansas and blizzard warnings were issued for those areas. At Texas' Guadalupe Pass, the wind exceeded 70 mph and nearby El Paso was hit by gusts of 60 mph.

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The chief backer of the bill, Sen. Cal Taggart, said it should gain even more support before Wednesday's roll-call vote. Sixteen votes are needed for final approval in the 30-member Senate.

"We've been on the phone all day

## House Kills Strike Ban

CHEYENNE, Wyo. (UPI) — A proposed constitutional amendment to ban strikes by public employees and impose stiff fines for violators — a measure backed by a member of the legislative leadership — was defeated Tuesday in the House.

The measure failed by seven votes to receive the required two-thirds majority of 42, but the sponsor, House Speaker Warren Morton, R-Natrona, said he was not surprised at the outcome.

Morton maintained opponents of the measure generally were those who also favored legislation allowing collective bargaining for public employees, and he said they had hurt chances for their own measure by blocking the proposed amendment.

"I think it is rather foolish for the advocates of public negotiation to block this proposal," he said. "I know of many people who will not vote for a public negotiation bill without a constitutional provision against strikes."

Morton's measure would have prohibited public employees from engaging "in any manner in any strike" and also said union representatives could not "direct or otherwise encourage or sanction the involvement of any public employee in any strike."

The proposal would have imposed penalties for violators: employees refusing to work would have faced fines at least equal to one day's pay for each day of violation, and union agents would have been fined an amount equal to the number of workers striking times their average daily salary.

"There were a number of people who said they did not want this incorporated in the constitution," said Rep. Bill Curry, R-Natrona, a retired

educator. "I think it's up to the local authorities whether to put anti-strike clauses in their contracts."

In other action during Tuesday's session, the House:

- Gave preliminary approval to a 100-page "Uniform Condominium Code" by Rep. Walter Urbigkit, D-Laramie.
- Defeated a measure by Rep. Bill Edwards, D-Laramie, to allow examinations for Wyoming high school graduates planning to attend colleges in the state. Current law provides for

automatic admission without examination in in-state high school graduates, and Edwards sought to allow testing for "counseling, advising and placement by the institution." His measure failed on a 30-32 vote.

- Defeated a bill requiring highway patrol pursuit lights to be placed on top of patrol cars. The measure was sponsored by Rep. Esther Eskens, R-Big Horn, who opposed the installation of pursuit lights inside the patrol cars, a practice she said was becoming more prevalent.

## Council, Developer Hold Work Session

by Ron Franck  
 Boomerang Staff Writer

A recommended policy developed nearly a year ago has come back to haunt the City Council, the City Manager, the City Engineer and a number of local developers.

The policy, which outlined how developers were to reimburse the City for improvements made on undeveloped properties, came under considerable fire from the developers at Tuesday night's City Council work session.

City Manager Frank Hoadley explained that the policy was drawn up and agreed upon by the Council during February 1978, after the City obtained an Economic Development Administration grant for the purpose of constructing curbs, gutters, sidewalks and storm sewers on a portion of Reynolds Street between 18th and 30th Streets, and a portion of 30th Street. The grant covered 85 percent of the cost, while the City provided the remainder.

According to the policy, developers of property abutting Reynolds Street would be required to reimburse the City for 100 percent of the street and sewer improvements. The City, in turn, would purchase land from the developers for the purpose of constructing storm runoff retention ponds.

That's where the carefully planned policy hit a snag.

Developer Paul Greaser, accompanied by attorney Don Prehoda, explained to the Council that it is now necessary for him to construct an elaborate means of channeling storm runoff to a retention pond which is not even with in his development.

At the same time, the development adjacent to Greaser's contains two retention ponds located in such a manner that very little channeling is needed. Greaser feels the situation is entirely inequitable.

(Continued on Page 8)

rt C. Burman a part of Lot 1,  
19 Block 8, Midwest First  
re Addition, 801 Harney.  
te

most at one time or another  
will be employed outside the  
home. But until recently

pre-registration is required.  
Conference workshops and  
programs include:

# Explosives Used

(Continued from Page 1)

UP spokesman Barry Combs told the Laramie Daily Boomerang from his Omaha office Tuesday afternoon that he had been told by Lt. Magee

## Committee Announced

Planning Office in the Albany County Courthouse by no later than Feb. 20.

The vacancy was created by the recent appointment of former member Dean Otte to the Planning Commission to fill the expired term of rancher Nat Smith.

The seven-member Zoning Subcommittee, appointed by the Planning Commission more than two months ago, has been given the task of developing a draft of a county-wide zoning plan.

The plan will be used by the Planning Commission in preparing a recommendation on zoning for the Albany County Board of Commissioners, the group with the ultimate responsibility for accepting or rejecting the controversial zoning issue.

Current members of the committee, appointed at the Planning Commission's Monday, Nov. 20 meeting, are: Chairman Leah Talbott, Commission member; Vice-chairman Chuck Bradenburg, Commission member; L. G. "Duke" Dueweke, Valley View resident; Jim Deaver, Albany County School District representative; Ted Nelson, Rock River mayor; and Cary East Alburn, local attorney and member of the Brees Field Airport Board.

that the detonation was "not particularly loud" nor large.

As a precaution, an ambulance had been dispatched to the scene, and Federal Aviation Administration officials were alerted to insure that airways were clear, wire reports said.

Area ranchers, some of whom had been evacuated from the vicinity the day before by law enforcement officials fearful that the fumes from the phosphorous were toxic, were warned to stay away from the scene.

Combs said representatives of the State Department of Environmental Quality and the Federal Environmental Protection Agency were at the scene for the detonation.

"There's some fire in the car, but most of it is in the trench," said Richard Lohr, UP spokesman, in a wire story. "It looks like it was successful."

Noting that the fire had not been burning fast enough before the blast further opened the ruptured tank car, Lohr said, "We've got to get our main line open. It's already been closed 24 hours. We've got to start moving some trains."

But Combs pointed out that even after the phosphorous is all burned up, the railroad still faces an estimated 10 to 12 hours of repair work in getting damaged tracks ready for use.

Railroad officials have been unable to determine the extent of the damage because thick white smoke from the burning chemical has shrouded the scene.

"It's really a function of the time it will take the fire in the one car still burning to burn itself out," Combs said when asked for a ballpark estimate on when the tracks might be reopened.

"Until we start the process of rebuilding the line, it is very difficult to say when we will be done."

Combs said crews were able

to get close enough to the scene Tuesday morning to begin moving some of the cars involved in the derailment out of the way.

He said 40 to 45 cars of the original 118-car freight train were located at the derailment site, although the smoke prevented crews from determining exactly how many cars were actually derailed.

Immediately after the accident, the train crew managed to move more than 70 cars away from the scene, according to Combs. In addition to the three phosphorous tankers, the freighter included empty cars and cars carrying lumber, coal and diammonium phosphate—a chemical used in producing fire retardants for portable fire extinguishers.

Combs said that the three phosphorous cars involved at the fire scene included one loaded with 25,000 gallons of the chemical, and two with 13,000 gallons each. It is these 13,000-gallon tankers which have been burning, he said.

Lohr said that only one of the three phosphorous cars was on fire when the demolition team approached the scene. While emergency crews had ascertained that a second car had already burned completely out, the status of the third car could not be determined since it was obscured by smoke from the car still burning.

Combs said he has been receiving hourly reports on the situation from UP official Joe McCartney, dispatched to the scene from the Omaha office, headquarters for the company.

A spokesman from the DEQ, William Garland, told UPI reporters that while the smoke from the fire could cause irritation to the eyes and lungs it is not toxic, as had been feared by law enforcement officers who evacuated the area after the accident occurred at 4:15 Monday morning.

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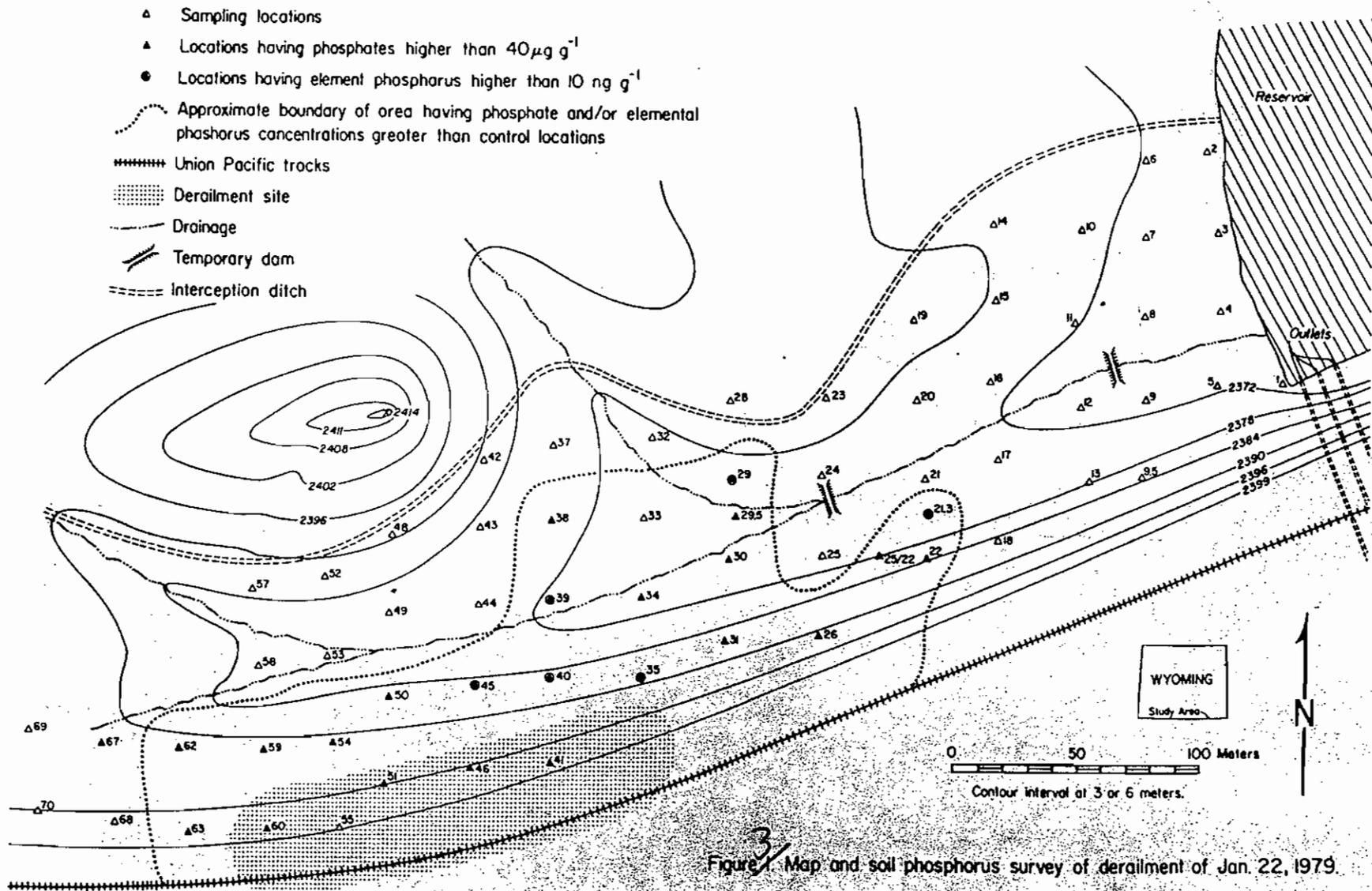


Figure 3 Map and soil phosphorus survey of derailment of Jan. 22, 1979.

Note: 1 meter = about 1 yard.

Recommendations

1. Elemental P will not migrate from surface horizons without becoming oxidized to  $PO_4$ . Elemental P poses no threat to nearby water supplies.
2. Phosphates ( $PO_4$ ) exist in high concentrations near the center of the derailment site. There is evidence that these are moving out of surface horizons, but are moving very slowly. It would be a reasonable precaution to assure that  $PO_4$  does not move out of surface horizons. This could be accomplished by liming the soil from its present pH (average 6.125 in contaminated surface soil) to near pH 8.0. Addition of 12,000 pounds  $CaCO_3$  per acre to the immediate site would attain this soil pH. The area which should be limed is an area indicated in Figure 3.

Wyoming Oil and Gas Commission 05/04/2009

API Number  
**49-001-05011**

Operator

**WESTERN OIL FIELDS INC**

Elevation GR

**7466**

Surface Location

**660 FEL and 1980 FNL**

Field

**WC**

Well Class

**OIL WELL**

Total Depth

**751**

APD Permitted By

**WESTERN OIL FIELDS INC  
WESTERN NATURAL GAS INC**

Well Name  
**KLINK 1**

Elevation KB

**0**

Measured From

**SECTION**

County

**ALBANY**

Status from Well Files

**PA**

Received On

**02/21/1950**

Surface Location

**SE NE 8 T 13 N R 73 W**

Spud

**12/08/1949**

Longitude

**-105.59699**

Basin

**LARAMIE**

Status Date

**03/17/1950**

Approved On

**02/21/1950**

Latitude

**41.11274**

# Wyoming Oil and Gas Comission 05/04/2009

Api Number

**49-001-05040**

Operator

**TRUE OIL LLC**

Elevation GR

**0**

Surface Location

**660 FSL and 660 FEL**

Field

**WC**

Well Class

**OIL WELL**

Total Depth

**722**

APD Permitted By

**TRUE OIL COMPANY**

Well Name

**MEARY 1**

Elevation KB

**7196**

Longitude

**-105.67637**

County

**ALBANY**

Status from Well Files

**PA**

Receivd On

Surface Location

**SE SE 10 T 15 N R 74 W**

Spud

**11/29/1961**

Latitude

**41.27970**

Basin

**LARAMIE**

Status Date

**12/12/1961**

Approved On

**11/29/1961**

**From:** Laughlin, Laura [LLAUGH@wyo.gov]  
**Sent:** Monday, March 30, 2009 10:39 AM  
**To:** Grieser, Joseph K.  
**Cc:** Guille, Keith  
**Subject:** RE: Open Records Search  
**RE: Freedom of Information Request**

Dear Mr. Grieser:

Per your request, all files in the Wyoming Department of Environmental Quality (DEQ) are open to the public unless they are found to be confidential under W.S. 35-11-1101. However, we do not have a method to rapidly retrieve information on companies, individuals or particular subjects. Very little of our data is automated. You or your representatives may search our files, and our office will make the appropriate arrangements, including provisions for copying documents. You may contact the UST Program at 307-777-7095 to schedule this. Absent such an arrangement we are unable to provide the information you have requested.

Sincerely,

Laura Laughlin, Executive Secretary

---

**From:** Grieser, Joseph K. [mailto:JGrieser@ene.com]  
**Sent:** Monday, March 30, 2009 9:23 AM  
**To:** Guille, Keith  
**Subject:** Open Records Search

To whom it may concern,

I would like to know the preferred method of how to make an open records search with your agency. I am interested in finding any spill/release/leaking UST/reported violations information regarding a large area of land southeast of Laramie, WY.

Please let me know how to proceed.

Thank you. Respectfully,

**Joseph K. Grieser**  
***ecology and environment, inc.***  
1412 Main Street, Suite 1500  
Dallas, Texas 75202  
Office 214-245-1000 Ext. 4206  
Fax 214-245-1001

Field/Cell 214-471-8292

E-mail [jgrieser@ene.com](mailto:jgrieser@ene.com)  
[www.ene.com](http://www.ene.com)



Please consider the impact to the environment before printing this e-mail.



<p><b>FACILITY</b> 0-000834</p> <p>Tie Siding General Store, Inc. P. O. Box 61 Tie Siding, WY 82084</p> <p>(307) 760-2058</p>	<p><b>OWNER</b> 5254</p> <p>Glow E. Serrano P. O. Box 61 Tie Siding, WY 82084</p> <p>(307) 760-2058</p>
<p><b>INSPECTIONS</b></p> <p>Last Scheduled Inspection none Last Operator Annual Inspection none</p>	<p><b>CONTAMINATED SITE</b> Yes</p> <p>Resolved Resolved Date: none Corrective Action Non-compliance Self Cleanup Dig &amp; Haul</p>

Tank	Status	Type	Spec/Mod	CP	Last CP Test	Last Used	Closed Date	Closure Status
1	POU	UST	Steel - Unknown Specification, None	SAS ICS	no date no date	3/31/1990	6/27/1990	Tank Removed from Ground

Compart	Capacity (gal)	Throughput (gal/mo)	Contents	Overfill Protection	Leak Detection Methods and Last Test Dates			
	1000.0		Gasoline	Ball Check Overfill Alarm Butterfly	MTG Inv Vapor GWM Inter SIR Tracer	no date no date no date no date no date no date no date	Accous CITLDS TTT ATG Other Defer Not List	no date no date no date no date no date no date no date

Line	Walls	CP	Last Test	Leak Detection Methods and Last Test Dates			
original pipe	Dbi Wall Scndry Cont	SAS ICS	no date no date	Mech Elec Sump	no date no date no date	Press Other Not List	no date no date no date
Material(s)	BS ✓ GS	FRP Cu	Flex Plastic	Unk	Not List	None	Abv Grnd

Tank	Status	Type	Spec/Mod	CP	Last CP Test	Last Used	Closed Date	Closure Status
2	POU	UST	Steel - Unknown Specification, None	SAS ICS	no date no date	3/31/1990	6/27/1990	Tank Removed from Ground

Compart	Capacity (gal)	Throughput (gal/mo)	Contents	Overfill Protection	Leak Detection Methods and Last Test Dates			
	1000.0		Gasoline	Ball Check Overfill Alarm Butterfly	MTG Inv Vapor GWM Inter SIR Tracer	no date no date no date no date no date no date no date	Accous CITLDS TTT ATG Other Defer Not List	no date no date no date no date no date no date no date

Line	Walls	CP	Last Test	Leak Detection Methods and Last Test Dates				
original pipe	Dbl Wall Scndry Cont	SAS ICS	no date no date	Mech Elec Sump	no date no date no date	Press Other Not List	no date no date no date	
Material(s)	BS ✓ GS	FRP	Cu	Flex Plastic	Unk	Not List	None	Abv Grnd

Tank	Status	Type	Spec/Mod	CP	Last CP Test	Last Used	Closed Date	Closure Status
3	POU	UST	Steel - Unknown Specification, None	SAS ICS	no date no date	3/31/1990	6/27/1990	Tank Removed from Ground

Compartment	Capacity (gal)	Throughput (gal/mo)	Contents	Overfill Protection	Leak Detection Methods and Last Test Dates			
	1000.0		Gasoline	Ball Check Overfill Alarm Butterfly	MTG Inv Vapor GWM Inter SIR Tracer	no date no date no date no date no date no date no date	Accous CITLDS TTT ATG Other Defer Not List	no date no date no date no date no date no date no date

Line	Walls	CP	Last Test	Leak Detection Methods and Last Test Dates				
original pipe	Dbl Wall Scndry Cont	SAS ICS	no date no date	Mech Elec Sump	no date no date no date	Press Other Not List	no date no date no date	
Material(s)	BS ✓ GS	FRP	Cu	Flex Plastic	Unk	Not List	None	Abv Grnd

9263 Ravenna Rd. Suite A-7  
 Twinsburg, OH 44087  
 Phone Number 330 963 6990  
 Fax Number 330 963 6975



CHAIN OF CUSTODY RECORD

0009002

COMPANY NAME AND ADDRESS Wyoming DEQ Water Quality Div. 4th St. Program Messerschler Bldg. 4W Cleary Lane, WY 82002					PROJECT NUMBER AND DESCRIPTION: Tie siding - facility 0-000834 PABOX 1475 Tie Siding, WY 82084 UST/STA						
SAMPLER SIGNATURES: [Signature]					Analysis Requested VAP						
STA.#	DATE	TIME	COMP.	GRAB.	STATION LOCATION	NO. OF CONTAINERS	Analysis Requested			NOTES	
1	8/30/00	10:00		X	3A	1	X			1	1st Floor
1	"	10:02		X	3B	1	X	X	X	2	"

CHAIN OF CUSTODY SIGNATURES (Name, Company, Date, Time)

1. Relinquished By: [Signature] 8/31/00 2:00pm  
 Received By: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

2. Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 4. Submitted to Laboratory By: [Signature] 9/1/00 @ 12:30pm  
 Received for Laboratory By: [Signature] 9/1/00 @ 12:30pm

9263 Ravenna Rd. Suite A-7  
 Twinsburg, OH 44087  
 Phone Number 330 963 6990  
 Fax Number 330 963 6975



CHAIN OF CUSTODY RECORD

0008088

COMPANY NAME AND ADDRESS <i>Wynn's Oil Water Quality Division                  201st Street W                  P.O. Box 1975, Twinsburg, OH 44089</i>					PROJECT NUMBER AND DESCRIPTION: <i>TIE Siding - Facility # 0000824                  P.O. BOX 1975, Twinsburg, OH 44089                  UST/STA</i>											
SAMPLER SIGNATURES: <i>[Signature]</i>					Analysis Requested VAP											
STA.#	DATE	TIME	CCMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Analysis Requested							NOTES		
1	8/26/00	9:30	X	X	1A	3		X	X							Back Parcel
1	"	9:30	X	X	1B	1	X			X	X	X				"
2	8/26/00	9:40	X	X	2A	3		X	X							Front Parcel
2	"	9:40	X	X	2B	1	X			X	X	X				"
							Shipped received sealed when opened only for analysis. Per phone call with analyst for GRAB analysis. The plastic numbered.									

CHAIN OF CUSTODY SIGNATURES (Name, Company, Date, Time)

1. Relinquished By: *Joe L. Long 8/26/00 1:50*  
 Received By: \_\_\_\_\_  
 3. Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_

2. Relinquished By: \_\_\_\_\_  
 Received By: \_\_\_\_\_  
 4. Submitted to Laboratory By: *Feb. 29/00 10:00 AM*  
 Received for Laboratory By: *Tracy [unclear] 3/2/00 10:30*



August 28, 2000

Lee Dlug  
Wyoming DEQ Cheyenne; Dept of Environmental Qualit  
Herschler Building-4W  
Cheyenne, WY 82002  
TEL: (307) 777-7781  
FAX (307) 777-5973

RECEIVED

SEP 5 2000

WATER QUALITY DIVISION  
WYOMING

RE: Tie Siding Facility 0-000834

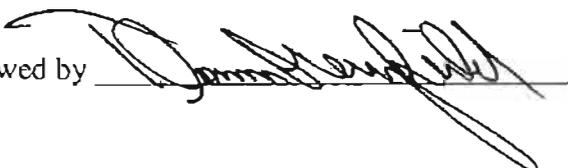
Order No.: 0008088

Dear Lee Dlug,

GEO Analytical, Inc. received 2 samples on 8/24/00 for the analyses presented in the following report.

Analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Reviewed by 

CC:



**GEO Analytical, Inc.**

Date: 28-Aug-00

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Project:** Tie Siding Facility 0-000834  
**Lab Order:** 0008088

**CASE NARRATIVE**

Shipper received in bad condition. When opened only VOA vials were in tact, 1L ambers broken. Per phone call with Lee, analyze VOA vials for BTEX+MTBE and TPH GRO. Also, no plastics were submitted for the metals analysis. AO.



GEO Analytical, Inc.

Date: 28-Aug-00

<b>CLIENT:</b>	Wyoming DEQ Cheyenne; Dept of Environ	<b>Client Sample ID:</b>	1A
<b>Lab Order:</b>	0008088	<b>Tag Number:</b>	
<b>Project:</b>	Tic Siding Facility 0-000834	<b>Collection Date:</b>	8/23/00
<b>Lab ID:</b>	0008088-01A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS IN WATER</b>		<b>SW8260A</b>				Analyst: KR
Benzene	ND	5.00		µg/L	1	8/25/00
Ethylbenzene	ND	5.00		µg/L	1	8/25/00
m,p-Xylene	ND	5.00		µg/L	1	8/25/00
Methyl tert-butyl ether	ND	5.00		µg/L	1	8/25/00
o-Xylene	ND	5.00		µg/L	1	8/25/00
Toluene	ND	5.00		µg/L	1	8/25/00
Surr: 1,2-Dichloroethane d4	100.2	89-122		%REC	1	8/25/00
Surr: Bromofluorobenzene	108.1	77-126		%REC	1	8/25/00
Surr: Toluene-d8	103.9	79-138		%REC	1	8/25/00

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range

\* - Value exceeds Maximum Contaminant Level



GEO Analytical, Inc.

Date: 28-Aug-00

<b>CLIENT:</b>	Wyoming DEQ Cbeyeinne; Dept of Environ	<b>Client Sample ID:</b>	1A
<b>Lab Order:</b>	0008088	<b>Tag Number:</b>	
<b>Project:</b>	Tie Siding Facility 0-000834	<b>Collection Date:</b>	8/23/00
<b>Lab ID:</b>	0008088-01B	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TPH/GASOLINE RANGE IN WATER		SW8015				Analyst: SL
T/R Hydrocarbons: C6-C10	ND	1.00		mg/L	1	8/25/00

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range

\* - Value exceeds Maximum Contaminant Level



**GEO Analytical, Inc.**

Date: 28-Aug-00

<b>CLIENT:</b> Wyoming DEQ Cheyenne; Dept of Environ	<b>Client Sample ID:</b> 2A
<b>Lab Order:</b> 0008088	<b>Tag Number:</b>
<b>Project:</b> Tie Siding Facility 0-000834	<b>Collection Date:</b> 8/23/00
<b>Lab ID:</b> 0008088-02A	<b>Matrix:</b> AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS IN WATER</b>		<b>SW8260A</b>				Analyst: KR
Benzene	ND	5.00		µg/L	1	8/25/00
Ethylbenzene	ND	5.00		µg/L	1	8/25/00
m,p-Xylene	ND	5.00		µg/L	1	8/25/00
Methyl tert-butyl ether	ND	5.00		µg/L	1	8/25/00
o-Xylene	ND	5.00		µg/L	1	8/25/00
Toluene	ND	5.00		µg/L	1	8/25/00
Surr: 1,2-Dichloroethane d4	101.9	89-122		%REC	1	8/25/00
Surr: Bromofluorobenzene	111.2	77-126		%REC	1	8/25/00
Surr: Toluene-d8	102.9	79-138		%REC	1	8/25/00

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank      E - Value above quantitation range

▪ - Value exceeds Maximum Contaminant Level



GEO Analytical, Inc.

Date: 28-Aug-00

<b>CLIENT:</b>	Wyoming DEQ Cheyenne; Depr of Environ	<b>Client Sample ID:</b> 2A
<b>Lab Order:</b>	0008088	<b>Tag Number:</b>
<b>Project:</b>	Tie Siding Facility 0-000834	<b>Collection Date:</b> 8/23/00
<b>Lab ID:</b>	0008088-02B	<b>Matrix:</b> AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TPH/GASOLINE RANGE IN WATER		SW8015				Analyst: SL
T/R Hydrocarbons: C6-C10	ND	1.00		mg/L	1	8/25/00

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range

\* - Value exceeds Maximum Contaminant Level



GEO Analytical, Inc.

Date: 28-Aug-00

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Project:** Tie Siding Facility 0-000834  
**Lab Order:** 0008088  
**Date Received:** 8/24/00

**Work Order Sample Summary**

Lab Sample ID	Client Sample ID	Tag Number	Collection Date
0008088-01A	1A		8/23/00
0008088-01B	1A		8/23/00
0008088-02A	2A		8/23/00
0008088-02B	2A		8/23/00

GEO Analytical, Inc.

Date: 28-Aug-00

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
Work Order: 0008088  
Project: Tie Siding Facility 0-000834

**QC SUMMARY REPORT**  
Method Blank

Sample ID: MBLK 8/25	Batch ID: R3287	Test Code: SW8015	Units: mg/L	Analysis Date: 8/25/00	Prep Date: 8/25/00						
Client ID:	Run ID: ALTHEAFIDW_000825A	SeqNo: 72441									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank  
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value outside of calibration range

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0008088  
 Project: Tie Siding Facility 0-000834

## QC SUMMARY REPORT

Method Blank

Sample ID: MBLK      Batch ID: R3271      Test Code: SW8260A      Units: µg/L      Analysis Date: 8/21/00      Prep Date: 8/21/00  
 Client ID:      Run ID: BRAD\_WATER\_000821      SeqNo: 72097

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	5									
1,1,1-Trichloroethane	ND	5									
1,1,2,2-Tetrachloroethane	ND	5									
1,1,2-Trichloroethane	ND	5									
1,1-Dichloroethane	ND	5									
1,1-Dichloroethene	ND	5									
1,1-Dichloropropene	ND	5									
1,2,3-Trichlorobenzene	ND	5									
1,2,3-Trichloropropane	ND	5									
1,2,4-Trichlorobenzene	ND	5									
1,2,4-Trimethylbenzene	ND	5									
1,2-Dibromo-3-chloropropane	ND	5									
1,2-Dibromoethane	ND	5									
1,2-Dichlorobenzene	ND	5									
1,2-Dichloroethane	ND	5									
1,2-Dichloropropane	ND	5									
1,3,5-Trimethylbenzene	ND	5									
1,3-Dichlorobenzene	ND	5									
1,3-Dichloropropane	ND	5									
1,4-Dichlorobenzene	ND	5									
2,2-Dichloropropane	ND	5									
2-Butanone	ND	100									
2-Chloroethylvinylether	ND	5									
2-Chloroluene	ND	5									
2-Hexanone	ND	100									
4-Chloroluene	ND	5									
4-Isopropyltoluene	ND	5									
4-Methyl-2-pentanone	ND	100									
Acetone	ND	100									

Qualifiers:      ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0008088  
 Project: Tie Siding Facility 0-000834

QC SUMMARY REPORT

Method Blank

Benzene	ND	5
Bromobenzene	ND	5
Bromochloromethane	ND	5
Bromodichloromethane	ND	5
Bromoform	ND	5
Bromomethane	ND	5
Carbon disulfide	ND	5
Carbon tetrachloride	ND	5
Chlorobenzene	ND	5
Chloroethane	ND	5
Chloroform	ND	5
Chloromethane	ND	5
cis-1,2-Dichloroethene	ND	5
cis-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Dibromomethane	ND	5
Dichlorodifluoromethane	ND	5
Diethyl ether	ND	10
Ethyl acetate	ND	10
Ethylbenzene	ND	5
Hexachlorobutadiene	ND	5
Isopropylbenzene	ND	5
m,p-Xylene	ND	5
Methyl tert-butyl ether	ND	5
Methylene chloride	ND	5
n-Butylbenzene	ND	5
n-Hexane	ND	5
n-Propylbenzene	ND	5
Naphthalene	ND	5
o-Xylene	ND	5
Propyl acetate	ND	10
sec-Butylbenzene	ND	5
Styrene	ND	5

Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Bla  
 E - Value outside of calibration rang

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Work Order:** 0008088  
**Project:** Tie Siding Facility 0-000834

## QC SUMMARY REPORT

Method Blank

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tert-Butylbenzene	ND	5
Tetrachloroethene	ND	5
Tetrahydrofuran	ND	5
Toluene	ND	5
trans-1,2-Dichloroethene	ND	5
trans-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
Trichlorofluoromethane	ND	5
Vinyl acetate	ND	100
Vinyl chloride	ND	2
1,2-Dichloroethane d4	77.8	5
Bromofluorobenzene	81.03	5
Toluene-d8	79.49	5

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Bla  
E - Value outside of calibration rang

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Work Order:** 0008088  
**Project:** Tie Siding Facility 0-000834

**QC SUMMARY REPORT**  
 Sample Matrix Spike Duplicate

Sample ID: 0008079-01AMSD	Batch ID: R3287	Test Code: SW8015	Units: mg/L	Analysis Date: 8/25/00	Prep Date: 8/25/00						
Client ID:	Run ID: ALTHEAFIDW_000825A	SeqNo: 72446									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	2.159	1	2.5	0	86.4	76	118	2.227	3.10	6	
Sample ID: 0008079-01AMS	Batch ID: R3287	Test Code: SW8015	Units: mg/L	Analysis Date: 8/25/00	Prep Date: 8/25/00						
Client ID:	Run ID: ALTHEAFIDW_000825A	SeqNo: 72445									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	2.227	1	2.5	0	89.1	76	118	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0008088  
 Project: Tie Siding Facility 0-000834

**QC SUMMARY REPORT**  
 Sample Matrix Spike Duplicate

Sample ID: 0008060-09A MSD		Batch ID: R3271		Test Code: SW8260A		Units: µg/L		Analysis Date: 8/21/00		Prep Date: 8/21/00	
Client ID:		Run ID: BRAD_WATER_000821		SeqNo: 72102							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	52	5	46.5	0	112	46	162	56.03	7.45	16	
Benzene	48.52	5	46.5	0	104	61	125	49.88	2.77	11	
Chlorobenzene	48.87	5	46.5	0	105	53	149	49.8	1.88	12	
Toluene	49.14	5	46.5	0	106	61	129	48.86	0.578	13	
Trichloroethene	52.3	5	46.5	0	112	58	144	53.17	1.65	11	
1,2-Dichloroethane d4	40.7	5	40	0	102	89	122	39.92	0	0	
Bromofluorobenzene	42.24	5	40	0	106	77	126	43.17	0	0	
Toluene-d8	41.73	5	40	0	104	79	138	41.02	0	0	

Sample ID: 0008060-09A MS		Batch ID: R3271		Test Code: SW8260A		Units: µg/L		Analysis Date: 8/21/00		Prep Date: 8/21/00	
Client ID:		Run ID: BRAD_WATER_000821		SeqNo: 72101							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	56.03	5	46.5	0	120	46	162	0			
Benzene	49.88	5	46.5	0	107	61	125	0			
Chlorobenzene	49.8	5	46.5	0	107	53	149	0			
Toluene	48.86	5	46.5	0	105	61	129	0			
Trichloroethene	53.17	5	46.5	0	114	58	144	0			
1,2-Dichloroethane d4	39.92	5	40	0	99.8	89	122	0			
Bromofluorobenzene	43.17	5	40	0	108	77	126	0			
Toluene-d8	41.02	5	40	0	103	79	138	0			

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang

GEO Analytical, Inc.

Date: 28-Aug-00

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
Work Order: 0008088  
Project: Tie Siding Facility 0-000834

**QC SUMMARY REPORT**  
Laboratory Control Spike - generic

Sample ID: LCS 8/25	Batch ID: R3287	Test Code: SW8015	Units: mg/L	Analysis Date: 8/25/00	Prep Date: 8/25/00						
Client ID:	Run ID: ALTHEAFIDW_000825A	SeqNo: 72442									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C6-C10	2.533	1	2.5	0	101	90	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Bla  
E - Value outside of calibration rang

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Work Order:** 0008088  
**Project:** Tie Siding Facility 0-000834

**QC SUMMARY REPORT**  
 Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: R3271	Test Code: SW8260A	Units: µg/L	Analysis Date: 8/21/00	Prep Date: 8/21/00						
Client ID:	Run ID: BRAD_WATER_000821	SeqNo: 72098									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	51.01	5	46.5	0	110	72	129	0			
Benzene	48.37	5	46.5	0	104	75	116	0			
Chlorobenzene	49.06	5	46.5	0	105	77	125	0			
Toluene	48.95	5	46.5	0	105	74	120	0			
Trichloroethene	52.21	5	46.5	0	112	77	128	0			
1,2-Dichloroethane d4	39.43	5	40	0	98.6	89	122	0			
Bromofluorobenzene	40.98	5	40	0	102	77	126	0			
Toluene-d8	41.62	5	40	0	104	79	138	0			

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Bla
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value outside of calibration rang.

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0008088  
 Project: Tie Siding Facility 0-000834  
 Test No: SW8260A

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

**Volatile Organic Compounds in Water**

Sample ID	BR2FBZ	BZMED8	DCAD4				
0008060-01A	108	105	103				
0008060-02A	109	105	103				
0008060-03A	107	105	102				
0008060-04A	110	105	103				
0008060-05A	110	106	103				
0008060-06A	109	106	104				
0008060-07A	107	104	101				
0008060-08A	109	104	103				
0008060-09A	110	106	103				
0008060-09A MS	108	103	99.8				
0008060-09A MSD	106	104	102				
0008061-01A	113	107	104				
0008061-02A	102	105	104				
0008061-03A	110	104	103				
0008061-04A	112	105	101				
0008061-05A	110	107	103				
0008061-06A	112	107	105				
0008061-07A	99.2	107	104				
0008061-08A	110	105	102				
0008088-01A	108	104	100				
0008088-02A	111	103	102				
0008091-02A	104	97.7	96.8				
CCV 000821	105	104	98.6				
CCV 000822	107	104	99.9				
CCV 000825	109	104	94.4				
LCS	102	104	98.6				
MBLK	101	99.4	97.2				

Acronym	Surrogate	QC Limits
BR2FBZ	= Bromofluorobenzene	77-126
BZMED8	= Toluene-d8	79-138
DCAD4	= 1,2-Dichloroethane d4	89-122

\* Surrogate recovery outside acceptance limits



September 12, 2000

Lee Dlug  
Wyoming DEQ Cheyenne; Dept of Environmental Qualit  
Herschler Building-4W  
Cheyenne, WY 82002  
TEL: (307) 777-7781  
FAX (307) 777-5973

RECEIVED  
SEP 18 2000  
WATER QUALITY DIVISION  
WYOMING

RE: Tie Siding - Facility 0-000834

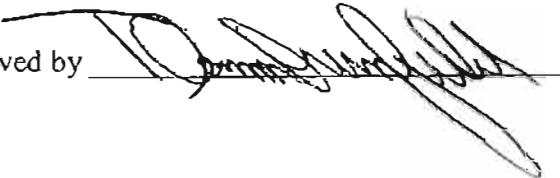
Order No.: 0009002

Dear Lee Dlug,

GEO Analytical, Inc. received 2 samples on 9/1/00 for the analyses presented in the following report.

Analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative.

If you have any questions regarding these tests results, please feel free to call.

Reviewed by 

CC:



Geo Analytical, Inc.

Date: 12-Sep-00

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
Project: Tie Siding - Facility 0-000834  
Lab Order: 0009002

**CASE NARRATIVE**

Per phone call and fax with Lee Dlug on 9/1/00, analyze for metals by method 6010. CD



Date: 12-Sep-00

<b>CLIENT:</b>	Wyoming DEQ Cheyenne; Dept of Environ	<b>Client Sample ID:</b> 3A
<b>Lab Order:</b>	0009002	<b>Tag Number:</b>
<b>Project:</b>	Tie Siding - Facility 0-000834	<b>Collection Date:</b> 8/30/00
<b>Lab ID:</b>	0009002-01A	<b>Matrix:</b> AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TPH/ DIESEL RANGE IN WATER TO C32		SW8015				Analyst: DR
T/R Hydrocarbons: C10-C32	ND	0.971		mg/L	1	9/6/00

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	



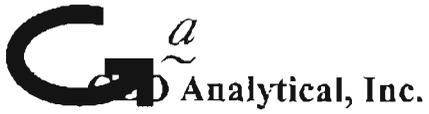
Date: 12-Sep-00

<b>CLIENT:</b>	Wyoming DEQ Cheyenne; Dept of Environ	<b>Client Sample ID:</b>	3B
<b>Lab Order:</b>	0009002	<b>Tag Number:</b>	
<b>Project:</b>	Tie Siding - Facility 0-000834	<b>Collection Date:</b>	8/30/00
<b>Lab ID:</b>	0009002-02A	<b>Matrix:</b>	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed	
<b>METALS IN WATER BY ICP</b>		<b>SW6010A</b>				Analyst: JH	
Cadmium	ND	0.00500		mg/L	1	9/6/00	
Chromium	ND	0.00500		mg/L	1	9/6/00	
Lead	ND	0.00500		mg/L	1	9/6/00	

**Qualifiers:**

ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank	E - Value above quantitation range
* - Value exceeds Maximum Contaminant Level	



Date: 12-Sep-00

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Project:** Tie Siding - Facility 0-000834  
**Lab Order:** 0009002  
**Date Received:** 9/1/00

### Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date
0009002-01A	3A		8/30/00
0009002-02A	3B		8/30/00

GEO Analytical, Inc.

Date: 12-Sep-00

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0009002  
 Project: Tie Siding - Facility 0-000834

**QC SUMMARY REPORT**  
 Method Blank

Sample ID: MB-1548	Batch ID: 1548	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/8/00	Prep Date: 8/30/00						
Client ID:	Run ID: ICP1_WATER_000906A	SeqNo: 73342									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.1									
Arsenic	ND	0.05									
Barium	ND	0.005									
Cadmium	ND	0.005									
Chromium	ND	0.005									
Lead	ND	0.005									
Selenium	ND	0.05									
Silver	ND	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit  
 I - Analyte detected below quantitation limits  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Bla  
 E - Value outside of calibration rang

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
Work Order: 0009002  
Project: Tie Siding - Facility 0-000834

**QC SUMMARY REPORT**  
Method Blank

Sample ID: MB-1509	Batch ID: 1509	Test Code: SW8015	Units: mg/L	Analysis Date: 8/28/00	Prep Date: 8/16/00						
Client ID:	Run ID: REUBEN_DRO_000817	SeqNo: 72453									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
T/R Hydrocarbons: C10-C32	ND	1									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0009002  
 Project: Tie Siding - Facility 0-000834

**QC SUMMARY REPORT**  
 Sample Matrix Spike Duplicate

Sample ID: 0008117-13AMSD	Batch ID: 1548	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/6/00	Prep Date: 8/30/00						
Client ID:	Run ID: ICP1_WATER_000906A	SeqNo: 73347									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.015	0.1	1	0	101	75	125	1.021	0.599	20	
Arsenic	4.085	0.05	4	0	102	69	116	4.168	2.01	20	
Barium	4.16	0.005	4	0.1585	100	67	118	4.235	1.78	20	
Cadmium	0.0945	0.005	0.1	0.0072	87.3	67	115	0.0949	0.422	20	
Chromium	0.4343	0.005	0.4	0.0302	101	67	110	0.4362	0.437	20	
Lead	1.063	0.005	1	0.0775	98.6	68	111	1.056	0.699	20	
Selenium	4.341	0.05	4	0	109	70	123	4.349	0.203	20	
Silver	0.0835	0.005	0.1	0	83.5	61	123	0.0807	3.41	20	

Sample ID: 0008117-13AMS	Batch ID: 1548	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/6/00	Prep Date: 8/30/00						
Client ID:	Run ID: ICP1_WATER_000906A	SeqNo: 73346									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.021	0.1	1	0	102	75	125	0			
Arsenic	4.168	0.05	4	0	104	69	116	0			
Barium	4.235	0.005	4	0.1585	102	67	118	0			
Cadmium	0.0949	0.005	0.1	0.0072	87.7	67	115	0			
Chromium	0.4362	0.005	0.4	0.0302	101	67	110	0			
Lead	1.056	0.005	1	0.0775	97.8	68	111	0			
Selenium	4.349	0.05	4	0	109	70	123	0			
Silver	0.0807	0.005	0.1	0	80.7	61	123	0			

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang

CLIENT: Wyoming DEQ Cheyenne; Dept of Environ  
 Work Order: 0009002  
 Project: Tie Siding - Facility 0-000834

**QC SUMMARY REPORT**  
 Laboratory Control Spike - generic

Sample ID: LCS-1548	Batch ID: 1548	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/6/00	Prep Date: 8/30/00						
Client ID:	Run ID: ICP1_WATER_000906A	SeqNo: 73343									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	1.015	0.1	1	0	102	75	125	0			
Arsenic	4.047	0.05	4	0	101	75	125	0			
Barium	4.224	0.005	4	0	106	75	125	0			
Cadmium	0.0822	0.005	0.1	0	82.2	75	125	0			
Chromium	0.4268	0.005	0.4	0	107	75	125	0			
Lead	1.037	0.005	1	0	104	75	125	0			
Selenium	3.71	0.05	4	0	92.8	75	125	0			
Silver	0.0985	0.005	0.1	0	98.5	75	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Bla  
 I - Analyte detected below quantitation limits R - RPD outside accepted recovery limits E - Value outside of calibration rang

**CLIENT:** Wyoming DEQ Cheyenne; Dept of Environ  
**Work Order:** 0009002  
**Project:** Tie Siding - Facility 0-000834

**QC SUMMARY REPORT**  
 Laboratory Control Spike Duplicate

Sample ID:	Batch ID:	Test Code:	Units:	Analysis Date:	Prep Date:							
LCSD-1509	1509	SW8015	mg/L	8/28/00	8/16/00							
Client ID:	Run ID:	SeqNo:										
	REUBEN_DRO_000817	72459										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
T/R Hydrocarbons: C10-C32	3.191	1	4	0	79.8	71.3	116	3.213	0.687	15		
Sample ID:	Batch ID:	Test Code:	Units:	Analysis Date:	Prep Date:							
LCS-1509	1509	SW8015	mg/L	8/28/00	8/16/00							
Client ID:	Run ID:	SeqNo:										
	REUBEN_DRO_000817	72454										
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
T/R Hydrocarbons: C10-C32	3.213	1	4	0	80.3	71.3	116	0				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Bla  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value outside of calibration rang



**LUST CONTAMINATED SITE SHEET AT CEMENT  
PRIORITY RANKING WORKSHEET**

Note: this is a re-score based on SS #.

Facility ID # 834 Scored By R. Peterson Date 2-11-94

Facility Name & Location Tie Siding General Store Score 1252

2-11-94  
35

Percentage of Occupational/ Indoor Air Value	CARCINOGEN(S) Point Value	Score
10%	50	
20%	70	
30%	90	
40%	110	
50%	125	
60%	145	
70%	165	
80%	185	
90%	205	
100%	250	

Percentage of Occupational/ Indoor Air Value	NON-CARCINOGEN(S) Point Value	Score
10%	30	
20%	40	
30%	50	
40%	60	
50%	70	
60%	80	
70%	90	
80%	100	
90%	110	
100%	125	

Percentage of Lower Explosive Limit	Point Value	Score
10%	50	
20%	60	
30%	75	
40%	85	
50%	100	
60%	125	
70%	150	
80%	175	
90%	200	
100%	250	

LEL = 10%,  
50 8' below top of casing in basement water well.

Product Thickness	Point Value	Score
Shoen entering surface groundwater	75	
1 inch	125	
6 inches	175	
12 inches	225	
18 inches	275	
>24 inches	350	

based on 25" found in a soil boring, now a 4" production well  
350

Concentration in Groundwater	Point Value	Score
Greater than ten times the MCL for drinking water or recommended concentration to protect human health	300	
Less than ten times or equal to the MCL for drinking water or recommended concentration to protect human health	100	
Greater than non-detectable and less than an MCL or recommended concentration to protect human health	10	

300

Potential to Contaminate Groundwater	Point Value	Score
Imminent, drinking water source	125	
Imminent, non-drinking water source	50	
Unknown, but probable	35	
Unknown, but possible	20	
No potential	0	

125

Water well in the basement has free product

**LUST CONTAMINATED SITE SHEET ATTACHMENT (Page 2)**  
**PRIORITY RANKING WORKSHEET**

<u>Product Type</u>	<u>Point Value</u>	<u>Score</u>
CERCLA regulated hazardous substance(s) _____	40	
RCRA regulated hazardous waste(s)—[waste solvents and/or chemical substances regulated by RCRA mixed with underground storage tank regulated substances] _____	40	
Motor fuels [gasoline, diesel fuel, kerosene, aviation fuel, or other similar petroleum product] with water soluble additives or octane enhancers, such as MTBE, EDB, or tetraethyl lead, ethanol, etc. _____	20	20
Motor fuels with no additives or octane enhancers _____	10	
Heating oils or waste oils _____	5	

<u>Estimated Volume of Release</u>	<u>Point Value</u>	<u>Score</u>
Less than 50 gallons -----	0	
51 - 200 gallons -----	5-25	
201 - 1000 gallons -----	25-100	
1001 - 10,000 gallons -----	100-150	
>10,000 gallons -----	150	
Unknown volume of heating oil -----	50	
Unknown volume of motor fuel -----	100	
Unknown volume of hazardous substance -----	200	

<u>Soil Type</u>	<u>Point Value</u>	<u>Score</u>
High permeability [course gravel, silty sands, etc.] -----	125	
Moderate permeability [loamy sands, silty clays, etc.] -----	50	50
Low permeability [clays] -----	10	
Shale or bedrock -----	0	

*Granitic sand, Granite Formation*

<u>Soil Contamination</u>	<u>Point Value</u>	<u>Score</u>
<u>Heavily</u> contaminated soils. Fails paint filter test or produces a free product layer when mixed with water and allowed to settle for ten minutes -----	150	
<u>Moderately</u> contaminated soils. Observed greasy feel, strong petroleum odor, black discoloration, or TPH >100 mg/kg -----	80	80
<u>Slightly</u> contaminated soils. Any visible contamination, weak petroleum odor, or TPH >30 mg/kg -----	30	

<u>Depth to First Groundwater</u>	<u>Point Value</u>	<u>Score</u>
Greater than 200 feet -----	0	
100 - 200 feet -----	50 - 10	
50 - 100 feet -----	100 - 50	
Less than 50 feet -----	100	

<u>Distance to Surface Water</u>	<u>Point Value</u>	<u>Score</u>
Less than 100 yards -----	50	
100 - 500 yards -----	50 - 25	
Greater than 500 yards -----	10	

<u>Annual Precipitation at Location</u>	<u>Point Value</u>	<u>Score</u>
Greater than 30 inches per year -	50	
10 - 30 inches per year -----	10 - 50	
Less than 10 inches per year ---	10	

**TOTAL SCORE** \_\_\_\_\_

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UST CONTAMINATED SITE INFORMATION FORM

FACILITY ID: 0834 LEAK ID: \_\_\_\_\_ TANK ID: \_\_\_\_\_

INVESTIGATORS INITIALS: DM IS THIS A FEDERALLY REGULATED TANK? \_\_\_\_\_

OWNER ID: \_\_\_\_\_

OWNER'S NAME: Tie Siding General Store Inc.

LOCATION NAME: Tie Siding General Store

ADDRESS: \_\_\_\_\_

CITY: Tie Siding STATE: WY ZIP CODE: 82084

SITE STATUS INFORMATION

CODE: (SEE 'A')	DATE:
<u>40</u>	<u>06 / 27 / 90</u>
<u>62</u>	<u>10 / 4 / 93</u>
<u>65</u>	<u>1 / 1</u>

COMMENT: \_\_\_\_\_  
 \_\_\_\_\_

PRIORITY CODE: \_\_\_\_\_

REPORTING PARTY INFORMATION

TYPE: 80 (SEE 'B')

NAME: Bill Tucker TITLE: \_\_\_\_\_

Tie Siding General Store Inc.

ADDRESS: PO Box 1975 CITY: Tie Siding

STATE: WY ZIP CODE: 82084 PHONE: (307) 745-5743

COMMENTS: \_\_\_\_\_

CORRESPONDENCE INFORMATION

NOTIFICATION DATE: 1 / 1 INSPECTION DATE: 06 / 27 / 90

CODE (SEE 'C')	DATE REQUIRED	DATE REC/APPROVED	DATE CLOSED
<u>10</u>	<u>1 / 1</u>	<u>06 / 27 / 90</u>	<u>1 / 1</u>
_____	<u>1 / 1</u>	<u>1 / 1</u>	<u>1 / 1</u>
_____	<u>1 / 1</u>	<u>1 / 1</u>	<u>1 / 1</u>
_____	<u>1 / 1</u>	<u>1 / 1</u>	<u>1 / 1</u>

COMMENT: \_\_\_\_\_  
 \_\_\_\_\_

CURRENT SITE STATUS CODES ('A')

<u>SITE CODE</u>	<u>SITE DESCRIPTIONS:</u>
10	LUST CLEANUP INITIATED: PETROLEUM, RP-LEAD
11	LUST CLEANUP INITIATED: PETROLEUM, ST-LEAD W/TF MONEY
12	LUST CLEANUP INITIATED: PETROLEUM, ST-LEAD W/ST MONEY
20	TANK RELEASE UNDER CONTROL: PETROLEUM, RP-LEAD
21	TANK RELEASE UNDER CONTROL: PETROLEUM, ST-LEAD W/TF MONEY
22	TANK RELEASE UNDER CONTROL: PETROLEUM, ST-LEAD W/ST MONEY
30	SITE CLEANUP COMPLETED: PETROLEUM, RP-LEAD
31	SITE CLEANUP COMPLETED: PETROLEUM, ST-LEAD W/TF MONEY
32	SITE CLEANUP COMPLETED: PETROLEUM, ST-LEAD W/ST MONEY
40	CONFIRMED RELEASE
41	RP HAS STOPPED RELEASE FROM TANK OR PIPING
42	OWNER/OPERATOR QUALIFIES FOR STATE FUND USE
43	OWNER/OPERATOR DOES NOT QUALIFY FOR STATE FUND USE
50	EMERGENCY RESPONSE TAKEN WITH FEDERAL FUNDS
51	EMERGENCY RESPONSE TAKEN WITH STATE FUNDS
60	SITE INVESTIGATION INITIATED, RP LEAD
61	SITE INVESTIGATION INITIATED, ST-LEAD W/TF MONEY
62	SITE INVESTIGATION INITIATED, ST-LEAD W/ST MONEY
63	SITE INVESTIGATION COMPLETED: RP-LEAD
64	SITE INVESTIGATION COMPLETED: ST-LEAD W/TF MONEY
65	SITE INVESTIGATION COMPLETED: ST-LEAD W/ST MONEY
70	ENFORCEMENT ACTION TO INITIATE/COMPLETE SITE CLEANUP
80	COST RECOVERY INITIATED
90	CONTRACTOR SELECTED FOR INVESTIGATION
91	CONTRACTOR SELECTED FOR REMEDIATION DESIGN
92	CONTRACTOR SELECTED TO CONSTRUCT REMEDIATION SYSTEM

REPORTING PARTY CODES ('B')

<u>RP TYPE</u>	<u>RP TYPE DESCRIPTION:</u>
10	CONSULTANT
20	FEDERAL OFFICIALS
30	INSURANCE COMPANY
40	LOCAL OFFICIALS
50	MEDIA
60	PUBLIC
70	STATE OFFICIALS
80	TANK OWNER/OPERATOR
90	OTHER

CORRESPONDENCE CODES ('C')

<u>CORRESPONDENCE CODES</u>	<u>CORRESPONDENCE DESCRIPTION:</u>
10	CONFIRMATION OF RELEASE
20	O/O NOTIFICATION
30	FIRST CORRECTIVE ACTION LETTER
40	RP RESPONSE TO 1ST CORRECTIVE ACTION LETTER
50	SECOND CORRECTIVE ACTION LETTER
60	RP RESPONSE TO 2ND CORRECTIVE ACTION LETTER
70	NOTICE OF VIOLATION
80	RP RESPONSE TO NOTICE OF VIOLATION
90	O/O RPT SUMMARIZING INITIAL ABATEMENT STEPS
100	O/O REPORTING SITE CHARACTERIZATION
110	CORRECTIVE ACTION PLAN SUBMITTED BY RP
120	GENERAL CORRESPONDENCE
130	ADMINISTRATIVE ACTION
140	REFERRALS

CURRENT SITE STATUS CODES ('A')

<u>SITE CODE</u>	<u>SITE DESCRIPTIONS:</u>
10	LUST CLEANUP INITIATED: PETROLEUM, RP-LEAD
11	LUST CLEANUP INITIATED: PETROLEUM, ST-LEAD W/TF MONEY
12	LUST CLEANUP INITIATED: PETROLEUM, ST-LEAD W/ST MONEY
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21	TANK RELEASE UNDER CONTROL: PETROLEUM, ST-LEAD W/TF MONEY
22	TANK RELEASE UNDER CONTROL: PETROLEUM, ST-LEAD W/ST MONEY
30	SITE CLEANUP COMPLETED: PETROLEUM, RP-LEAD
31	SITE CLEANUP COMPLETED: PETROLEUM, ST-LEAD W/TF MONEY
32	SITE CLEANUP COMPLETED: PETROLEUM, ST-LEAD W/ST MONEY
40	CONFIRMED RELEASE
41	RP HAS STOPPED RELEASE FROM TANK OR PIPING
42	OWNER/OPERATOR QUALIFIES FOR STATE FUND USE
43	OWNER/OPERATOR DOES NOT QUALIFY FOR STATE FUND USE
50	EMERGENCY RESPONSE TAKEN WITH FEDERAL FUNDS
51	EMERGENCY RESPONSE TAKEN WITH STATE FUNDS
60	SITE INVESTIGATION INITIATED, RP LEAD
61	SITE INVESTIGATION INITIATED, ST-LEAD W/TF MONEY
62	SITE INVESTIGATION INITIATED, ST-LEAD W/ST MONEY
63	SITE INVESTIGATION COMPLETED: RP-LEAD
64	SITE INVESTIGATION COMPLETED: ST-LEAD W/TF MONEY
65	SITE INVESTIGATION COMPLETED: ST-LEAD W/ST MONEY
70	ENFORCEMENT ACTION TO INITIATE/COMPLETE SITE CLEANUP
80	COST RECOVERY INITIATED
90	CONTRACTOR SELECTED FOR INVESTIGATION
91	CONTRACTOR SELECTED FOR REMEDIATION DESIGN
92	CONTRACTOR SELECTED TO CONSTRUCT REMEDIATION SYSTEM

REPORTING PARTY CODES ('B')

<u>RP TYPE</u>	<u>RP TYPE DESCRIPTION:</u>
10	CONSULTANT
20	FEDERAL OFFICIALS
30	INSURANCE COMPANY
40	LOCAL OFFICIALS
50	MEDIA
60	PUBLIC
70	STATE OFFICIALS
80	TANK OWNER/OPERATOR
90	OTHER

CORRESPONDENCE CODES ('C')

<u>CORRESPONDENCE CODES</u>	<u>CORRESPONDENCE DESCRIPTION:</u>
10	CONFIRMATION OF RELEASE
20	O/O NOTIFICATION
30	FIRST CORRECTIVE ACTION LETTER
40	RP RESPONSE TO 1ST CORRECTIVE ACTION LETTER
50	SECOND CORRECTIVE ACTION LETTER
60	RP RESPONSE TO 2ND CORRECTIVE ACTION LETTER
70	NOTICE OF VIOLATION
80	RP RESPONSE TO NOTICE OF VIOLATION
90	O/O RPT SUMMARIZING INITIAL ABATEMENT STEPS
100	O/O REPORTING SITE CHARACTERIZATION
110	CORRECTIVE ACTION PLAN SUBMITTED BY RP
120	GENERAL CORRESPONDENCE
130	ADMINISTRATIVE ACTION
140	REFERRALS

FORECAST

HAS THE OWNER/OPERATOR BEEN IDENTIFIED? \_\_\_\_\_  
 DATE IDENTIFIED: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 IS THE OWNER/OPERATOR CAPABLE OF CONDUCTING CLEANUP? \_\_\_\_\_  
 HAS THE RESPONSIBLE PARTY BEEN IDENTIFIED? \_\_\_\_\_  
 DATE IDENTIFIED: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 HAS THE RESPONSIBLE PARTY SEARCH BEEN COMPLETED? \_\_\_\_\_  
 DATE SEARCH WAS COMPLETED: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 DOES THE STATE PLAN TO SPEND OVER \$ 100,000 OF FEDERAL TRUST FUND MONEY  
 AT THE SITE? \_\_\_\_\_ IF YES, HOW MUCH? \_\_\_\_\_  
 WHEN IS EXPENDITURE PLANNED? \_\_\_\_\_  
 HAS THE STATE OBLIGATED OVER \$ 100,000 OF FEDERAL TRUST FUND MONEY  
 AT THE SITE? \_\_\_\_\_ IF YES, HOW MUCH? \_\_\_\_\_  
 HAS THE STATE SPENT OVER \$ 100,000 OF FEDERAL TRUST FUND MONEY  
 AT THE SITE? \_\_\_\_\_ IF YES, HOW MUCH? \_\_\_\_\_  
 HOW MUCH MONEY HAS BEEN SPENT AT THE SITE?  
 STATE: \_\_\_\_\_ FEDERAL: \_\_\_\_\_ OTHER: \_\_\_\_\_  
 HAS THE STATE ISSUED A DEMAND LETTER OR BILL FOR COST RECOVERY? \_\_\_\_\_  
 \$ VALUE OF THE COST RECOVERY BINDING SETTLEMENT/JUDGEMENT: \_\_\_\_\_  
 WHAT IS THE DOLLAR VALUE OF THE COSTS RECOVERY?  
 STATE: \_\_\_\_\_ FEDERAL: \_\_\_\_\_  
 DATE THE COST RECOVERED AMOUNT WAS INPUT: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
 DOES THE STATE PLAN TO USE INNOVATIVE OR EXPERIMENTAL TECHNOLOGY? \_\_\_\_\_  
 IF YES, WHAT KIND? \_\_\_\_\_  
 DOES THE STATE PLAN TO PROVIDE A PERMANENT ALTERNATIVE WATER SUPPLY? \_\_\_\_\_  
 DOES THE STATE PLAN TO PERMANENTLY RELOCATE RESIDENTS? \_\_\_\_\_

LEAK INFORMATION

WERE INVENTORY RECORDS PROVIDED? No DATE:  / /

TYPE OF FACILITY: 05 DEPTH TO GROUNDWATER (FT) 40  
(SEE 'D')

PRODUCT (SEE 'E')	ESTIMATED QUANTITY LOST	SOIL TYPE (SEE 'H')
<u>10</u>		<u>20</u>

CAUSE: Previous LUST's

DISPOSAL OF TANK: \_\_\_\_\_

DETECTION METHOD: product in drinking water well  
(SEE 'F')

LEAK IMPACT: product in drinking water well

CLEANUP METHOD: \_\_\_\_\_  
(SEE 'G')

SITE SKETCH

FACILITY TYPE CODES ('D')

<u>FACILITY CODE</u>	<u>FACILITY DESCRIPTION:</u>
05	GAS STATION
10	PETROLEUM DISTRIBUTOR
15	AIR TAXI
20	AIRCRAFT OWNER
25	AUTO DEALERSHIP
30	RAILROAD
35	LOCAL GOVERNMENT
40	STATE GOVERNMENT
45	FEDERAL NON-MILITARY
50	FEDERAL MILITARY
55	COMMERCIAL
60	INDUSTRIAL
65	CONTRACTOR
70	TRUCK/TRANSPORTATION
75	UTILITIES
80	FARM
85	RESIDENTIAL
90	OTHER

PRODUCT CODES ('E')

<u>PRODUCT CODE</u>	<u>PRODUCT DESCRIPTION:</u>
10	GASOLINE
20	DIESEL
30	GASAHOL
40	KEROSENE
50	HEATING OIL
60	USED OIL
70	OTHER
80	HAZARDOUS SUBSTANCE
90	MIXTURE

DETECTION METHODS CODES ('F')

<u>TECH CODE</u>	<u>INNOVATIVE TECHNOLOGY DESCRIPTIONS:</u>
10	TANK TIGHTNESS TESTING - VOLUMETRIC
11	TANK TIGHTNESS TESTING - OTHER
20	VAPOR DETECTION WELLS
30	GROUNDWATER MONITOR WELLS
40	AUTOMATIC TANK GAUGING
50	INTERSTIAL MONITORING
60	TANK REMOVAL/EXCAVATION

CLEANUP CODES ('G')

<u>CODE</u>	<u>DESCRIPTION:</u>
10	BIO REMEDIATION
20	PUMP AND TREAT
30	SOIL EXCAVATION
40	PHYSICAL EXCAVATION
50	NATURAL ATTENUATION

SOIL TYPES ('H')

<u>CODE</u>	<u>DESCRIPTION</u>
10	GRAVEL
20	SAND
30	SILT
40	CLAY



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



## Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7391

Land Quality Division  
(307) 777-7756  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781

July 12, 1990

Bill Tucker  
Tie Siding General Store, Inc.  
PO Box 1975  
Tie Siding, WY 82084

RE: Underground Storage Tank Notification #0834

Dear Mr. Tucker:

On June 27, 1990, personnel from the Wyoming Department of Environmental Quality/Water Quality Division (WQD) inspected the removal of three underground storage tanks (USTs) from the above referenced site. A copy of the UST Contaminated Site Inspection Form has been attached for your reference. Hydrocarbon contamination was found at the excavation during this inspection. Water samples were collected from the old drinking water well to be analyzed for the presence of hydrocarbons. The water analysis report shows there is hydrocarbon contamination in the groundwater. Both State and Federal regulations require the cleanup of sites contaminated by hydrocarbons.

The Wyoming "Water Pollution from Underground Storage Tanks Corrective Action Act of 1990" established a State fund supported by tank registration fees and a fuel tax to be used to fund corrective action taken at sites contaminated by releases of hydrocarbons from UST's. The corrective action fund can be used to by WQD to investigate the extent of contamination and to clean up contaminated sites.

In order to become eligible for the use of corrective action funds at your site, you must have paid the annual tank registration fee(s) due while the UST's were in use, and your UST system must have been in compliance with the applicable federal requirements. Furthermore, after the UST' have been removed you must continue to pay a \$200 annual Site fee until the cleanup is completed.

Once your eligibility has been established, your site will be placed on a priority list. The State will take corrective action at UST contaminated sites based on a ranking system; the sites posing the greatest risk to public health, safety and welfare or the environment will be addressed first. So you will not be held liable for all investigation and cleanup costs at your site, you must become eligible and remain eligible for the State corrective action program.

Bill Tucker  
July 12, 1990  
Page 2

If you have not already done so, please complete the enclosed Notification for Underground Storage Tanks form, showing these tanks have been removed from this site, and send the form to the Water Quality Division. Also enclosed is a copy of the original Notification for Underground Storage Tanks form which was completed for this site in 1986. Please refer to this form so you can complete the I.D. Number and Location of Tank(s) sections the same way on the new form.

Your cooperation in properly abandoning this site is appreciated. Please feel free to contact me at (307) 777-5877 if you have any questions.

Sincerely,



David Montague  
Groundwater Engineering Evaluator  
Water Quality Division

DM/mad

cc: LeRoy Feusner, DEQ/WQD  
Notification File  
Groundwater File w/enclosure

Enclosure: UST Contaminated Site Information Form  
UST Notification Form

278

06-27-90 Tie Siding General Store

Tie Siding

Arrived 8:50 Am

Met with Bill Tucker

The three 1,000 gallon gasoline UST's were removed yesterday.

An inspection of the tanks did not show any apparent holes or leaks.

Soil samples were collected from under each tank. There is no apparent hydrocarbon staining, but there is hydrocarbon odors in the south and middle samples.

Sample	HW Reading
North	0
Middle	32
South	40

Mr. Tucker said about 24-27 years ago the old UST's were removed, and they were leaking. He also said there is gasoline in the old water well, located inside the house/store. I collected two 40ml vials for BTEX analysis. The water has a very strong product odor. It is expected the depth to bedrock is about 50', and the groundwater is perched on the bedrock. Since there is gasoline in the groundwater, I will not at this time attempt to determine the vertical extent of contamination.

This site will be placed on top of the priority list and addressed with those procedures.

Left site 9:50 Am

1-15-93  
gmm

PRIORITY RANKING WORKSHEET

Tie Siding Gw. Store

Facility ID 834

Facility Name Dr. Bill Tucker

Total Score 997

By Roland Peterson

1-7-93

Percentage of Occupational/  
Indoor Air Value

Carcinogen(s)

Point Value

Score

10%	50
20%	70
30%	90
40%	110
50%	125
60%	145
70%	165
80%	185
90%	205
100%	250

Percentage of Occupational/  
Indoor Air Value

Non-carcinogen(s)

Point Value

Score

10%	30
20%	40
30%	50
40%	60
50%	70
60%	80
70%	90
80%	100
90%	110
100%	125

Percentage of Lower  
Explosive Limit

Point Value

Score

10%	50
20%	60
30%	75
40%	85
50%	100
60%	125
70%	150
80%	175
90%	200
100%	250

Product Thickness

Point Value

Score

Shoen entering surface or groundwater	75
1 inch	125
6 inches	175
12 inches	225
18 inches	275
>24 inches	350

125

Est

Concentration

Point Value

Score

Greater than ten times the MCL for drinking water or recommended concentration to protect human health	300
Less than ten times or equal to the MCL for drinking water or recommended concentration to protect human health	100
Greater than non-detectable and less than an (MCL) or recommended concentration to protect human health	10

300

Benzene  
~~108~~ = 108  
ug/l

Contamination Potential

Point Value

Score

Imminent, drinking water source	125
Imminent, non-drinking water source	50
Unknown, but probable	35
Unknown, but possible	20
No potential	0

125

LOST CONTAMINATED SITE SHEET ATTACHMENT

PRIORITY RANKING WORKSHEET

<u>Product Type</u>	<u>Point Value</u>	<u>Score</u>
CERCLA regulated hazardous substance(s)	40	
RCRA regulated hazardous waste(s) (waste solvents and/or chemical substances regulated by RCRA mixed with underground storage tank regulated substances)	40	
Light petroleum products (gasoline, kerosene, aviation fuel, or other similar petroleum product) with water soluble additives or octane enhancers, such as MTBE, RDB, tetraethyl lead, ethanol, etc.	20	20
Light petroleum product with no additives or octane enhancers	10	
Heavy petroleum products, such as fuel oil, diesel fuel, waste oil, etc.	5	

<u>Volume</u>	<u>Point Value</u>	<u>Score</u>
Less than 50 gallons	0	
51 - 200 gallons	5 - 25	
201 - 1000 gallons	25-100	100
1001 - 10,000 gallons	100-150	
Greater than 10,000 gallons	150	Est

<u>Soil Type</u>	<u>Point Value</u>	<u>Score</u>
High permeability (coarse gravel, silty sands, etc.)	125	125
Moderate permeability (loamy sands, silty clays, etc.)	50	
Low permeability (clays)	10	
Shale or bedrock	0	

<u>Soil Contamination</u>	<u>Point Value</u>	<u>Score</u>
Heavy contaminated soils. Fails paint filter test or produces a free product layer when mixed with water and allowed to settle for ten minutes	150	
Moderately contaminated soils. Observed greasy feel, strong petroleum odor, black discoloration, or TPH >100 mg/kgm	80	80
Slightly contaminated soils. Any visible contamination, weak petroleum odor, or TPH >30 mg/kgm	30	

<u>Depth</u>	<u>Point Value</u>	<u>Score</u>
Greater than 200 feet	0	
100 - 200 feet	50-100	
50 - 100 feet	100-50	100
Less than 50 feet	100	

<u>Distance</u>	<u>Point Value</u>	<u>Score</u>
Less than 100 yards	50	
100 - 500 yards	50-25	
Greater than 500 yards	10	10

<u>Precipitation</u>	<u>Point Value</u>	<u>Score</u>
Greater than 30 inches/year	50	
10 - 30 inches/years	10-50	
Less than 10 inches/year	10	12





# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

September 13, 2004

## CERTIFIED

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

You are being sent this letter because the annual Contaminated Site Fee for this facility has not been received by this department. Payment of the contaminated site fee is voluntary; however, those who elect not to pay are subject to the following requirements:

1. Within 60 days:
  - A. Submittal of a written "Initial Abatement Measures and Site Check" to this department describing actions that have or will be taken to provide for the cleanup and restoration of the contaminated site as required by W.S. 35-11-1426 and Section 24 of Chapter 17, Water Quality Rules and Regulations. This written description would include the following:
    1. Methods to continue to monitor and mitigate any fire and safety hazards posed by vapors or free product that have migrated from the underground storage tank excavation zone and entered subsurface structures (i.e., sewers or basements);
    2. The remedy of hazards posed by the contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner/operator must comply with the applicable department requirements;
    3. The investigation to determine the possible presence of free product AND begin the free product removal as soon as practical and in accordance with Section 24(d), Chapter 17, Water Quality Rules and Regulations.
  - B. Submittal of an "Initial Site Characterization." Owners/Operators shall assemble information about the site and the nature of any release, including information gathered while confirming the release or completing the initial abatement measures required above. This would include:

Herschler Building • 122 West 25th Street • Cheyenne, WY 82002 • <http://deq.state.wy.us>

ADMIN/OUTREACH  
(307) 777-7758  
FAX 777-3610

ABANDONED MINES  
(307) 777-6145  
FAX 777-6462

AIR QUALITY  
(307) 777-7391  
FAX 777-5616

INDUSTRIAL SITING  
(307) 777-7369  
FAX 777-6937

LAND QUALITY  
(307) 777-7756  
FAX 777-5864

SOLID & HAZ WASTE  
(307) 777-7752  
FAX 777-5973

WATER QUALITY  
(307) 777-7781  
FAX 777-5973



September 13, 2004

Page 2

1. Data on the nature and estimated size of any release;
  2. Data on impacted surrounding populations, water quality, use and approximate location of wells affected by the release, subsurface soil conditions, location of subsurface sewers possibly affected by release, and land use of affected areas;
  3. Results of free product investigations required by Section 24(b), Chapter 17, Water Quality Rules and Regulations, to be used by owner/operators to determine whether free product must be recovered under item B above;
  4. Submit the information collected as required by Section 24, Chapter 17, Water Quality Rules and Regulations, to the department in a manner which demonstrates its technical adequacy and applicability.
- C. Submittal of a report detailing the investigation for soil and groundwater cleanup and corrective action as required by Chapter 17, Section 24(e) and Section 24(f), Water Quality Rules and Regulations.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter XIX, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).
  3. Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

**All costs of remediation will be at your expense.**

Next year, this agency will initiate formal enforcement action against owners of contaminated sites who are not covered by the program and who have also not complied with the above requirements.

If you have any questions, feel free to call the office at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
AUC / AUST Program Principal  
Water Quality Division

Enclosure: Delinquent Site Fee Invoice

cc: Facility file #0-000834

**Bob Lucht - TIE SIDING GENERAL STORE 0-000834**

---

**From:**

**Date:** 9/18/03

**Subject:** TIE SIDING GENERAL STORE 0-000834

---

Called Glow E. Serano at (307) 721-8139 (post office). The other number is (307) 724-0460. The number in the database is a cell phone for Gary, who is in Iowa now. Glow asked me to FAX the bill to (307) 745-0460 so I did.

Confirmation Report - Memory Send

Date & Time: 09-18-2003 02:14pm  
Tel line : +  
Machine ID : ST. WY. D.E.Q.

Job number : 328  
Date & Time : 09-18 02:08pm  
To : 913077450460  
Number of pages : 002  
Start time : 09-18 02:12pm  
End time : 09-18 02:14pm  
Pages sent : 002  
Status : OK

Job number : 328 \*\*\* SEND SUCCESSFUL \*\*\*

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
UNDERGROUND STORAGE TANK PROGRAM  
HERSCHLER BUILDING, 122 WEST 25TH STREET  
CHEYENNE, WYOMING 82002  
FAX TRANSMISSION

Date: September 18, 2003

FAX Number (307) 745-0460

Number of pages : 2 (including cover sheet)

Dear Glow Serrano: 0-000834  
Serrano, Glow E

From: Robert F. Lucht, P.E. & P.G., Storage Tank Program

Return FAX Number: (307) 777-5973

Return Telephone Number: (307) 777-7095

Comments:  
Contaminated site invoice for facility 0-000834, Tio Siding General Store.



The State of Wyoming

834



# Department of Environmental Quality

Dave Freudenthal, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307)777-7758 FAX 777-3610	ABANDONED MINES (307)777-6145 FAX 777-6462	AIR QUALITY (307)777-7391 FAX 777-5616	INDUSTRIAL SITING (307)777-7369 FAX 777-6937	LAND QUALITY (307)777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307)777-7752 FAX 777-5973	WATER QUALITY (307)777-7781 FAX 777-5973
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August 1, 2003

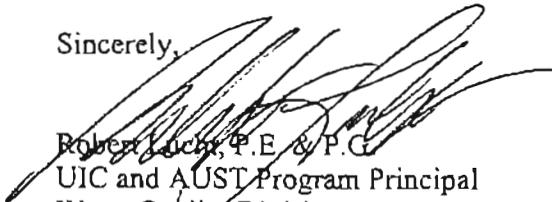
Dear Underground Storage Tank Owner / Operator

As of this date, the underground storage tank fees for your tank(s) or the contaminated site fees for your contaminated site(s) for Fiscal Year 2004 are overdue by 30 days. These fees are due by statute on July 1 of each year. Payment of these fees, on time, is one of the statutory requirements to remain eligible for the State of Wyoming Corrective Action Account which pays to clean up your site if a release occurs, and to remain eligible for the State of Wyoming Financial Assurance Account which covers your liability if a judgement is rendered against you as a result of a release. Your failure to pay these fees on time threatens your eligibility for these two important benefits. Please pay the invoice which was sent to you in May immediately.

If you have any questions concerning these fees, or any thing else concerning underground storage tanks, please do not hesitate to call me at (307) 777-7095, by FAX to (307) 777-5973 or by internet to [blucht@state.wv.us](mailto:blucht@state.wv.us).

The Underground Storage Tank program is set up to prevent some very serious problems caused by leaking tanks. Our program is focused on preventing leaks through proper maintenance of cathodic protection systems and liners, and detecting leaks before they become to serious through monthly and annual leak detection tests. Potential problems which can be caused by leaks include contamination of domestic water wells, fires and explosions caused by vapors accumulating in basements and utility spaces, and serious health affects caused by exposures to toxic vapors. Your cooperation with our program is sincerely appreciated.

Sincerely,



Robert Loch, P.E. & P.C.  
UIC and AUST Program Principal  
Water Quality Division



Dave Freudenthal,  
Governor

The State  
of Wyoming

# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002



ADMIN/OUTREACH 307-777-7758 FAX 777-3610	ABANDONED MINES 307-777-6145 FAX 777-6462	AIR QUALITY 307-777-7391 FAX 777-5616	INDUSTRIAL SITING 307-777-7369 FAX 777-8937	LAND QUALITY 307-777-7756 FAX 777-5864	SOLID & HAZ. WASTE 307-777-7752 FAX 777-5973	WATER QUALITY 307-777-7761 FAX 777-5973
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February 19, 2003

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

The Department of Environmental Quality is considering legal action and penalties in order to collect delinquent Above/Underground Storage Tank fees.

You are being sent this letter because the annual Storage Tank registration fees for this facility are delinquent.

*MARCH 15, 2003*

1. You must pay the delinquent fees by , or face a formal enforcement action. As part of such an action, this department intends to propose penalties.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter 19, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).

Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

SCANNED

**All costs of remediation will be at your expense.**

Participating in the Wyoming UST Program by paying all your fees provides you with two benefits:



Dave Freudenthal, Governor

ADMIN/OUTREACH ABA  
307-777-7758  
FAX 777-3810

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Glow E. Serrano  
P.O. Box 61  
Tie Siding WY 82084

2. Article Number (Copy from service label)

PS Form 3811, July 1999

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

B. Date of Delivery

C. Signature

X *Glow E. Serrano*

Agent

Addressee

D. Is delivery address different from item 1? If YES, enter delivery address below:

Yes

No

102

WATER QUALITY  
307-777-7781  
FAX 777-5973

3. Service Type

Certified Mail

Express Mail

Registered

Return Receipt for Merchandise

Insured Mail

C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

7002 0860 0007 6286 2237

Domestic Return Receipt

102595-99-M-1789

February 1

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

The Department of Environmental Quality is considering legal action and penalties in order to collect delinquent Above/Underground Storage Tank fees.

You are being sent this letter because the annual Storage Tank registration fees for this facility are delinquent.

*MARCH 15, 2003*

- You must pay the delinquent fees by ~~March 15, 2003~~, or face a formal enforcement action. As part of such an action, this department intends to propose penalties.
- Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter 19, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).

Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

All costs of remediation will be at your expense.

Participating in the Wyoming UST Program by paying all your fees provides you with two benefits:

February 19, 2003

Page 2

### Corrective Action Account

Cleanup of the site is done with money from the account. A very small cleanup of contaminated soil can cost \$10,000 to \$20,000. Large contamination problems may exceed \$75,000 per site. If the LUST site owner/operator is eligible for the state program, he/she pays none of the cleanup costs.

Remediation is done in order of the department's prioritized ranking system for contaminated sites from the most contaminated area to the least contaminated area.

### Financial Responsibility Account

Contamination from a site could cause third party personal or property damage. For example: The contamination infiltrates a neighbor's well; the neighbor files a court action against the LUST site owner; and the neighbor is awarded \$50,000 damages by the court. If the procedures listed in the statute have been followed, the owner would be responsible for \$30,000 of the judgement, and the state's financial responsibility account would pay the balance up to \$1 million. Legal costs are not covered by the account.

In summary, this facility is not in compliance with the Wyoming Above/Underground Storage Tank Program. The division will give you until November 15, 2003, to remit the amount owed or submit proof of remediation.

Based upon the benefits of the Wyoming UST Program, it would be to your advantage to participate.

If you feel that there are any discrepancies or oversights, or if you have any questions, feel free to call the staff at the Cheyenne office. The AUST staff is Oma Gilbreth at 307-777-7097, Con Bratton at 307-777-7619, or Bob Lucht at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
UIC / AUST Program Principal  
Water Quality Division

cc: Facility file #0-000834

UST-Access '97 report FL008



Jim Geringer, Governor

The State of Wyoming



Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH 307-777-7758 FAX 777-3610	ABANDONED MINES 307-777-8145 FAX 777-6462	AIR QUALITY 307-777-7391 FAX 777-5618	INDUSTRIAL SITING 307-777-7369 FAX 777-6937	LAND QUALITY 307-777-7756 FAX 777-5854	SOLID & HAZ. WASTE 307-777-7752 FAX 777-5973	WATER QUALITY 307-777-7781 FAX 777-5973
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October 30, 2002

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

You are being sent this letter because the annual Contaminated Site Fee for this facility has not been received by this department. Payment of the contaminated site fee is voluntary; however, those who elect not to pay are subject to the following requirements:

1. Within 60 days:
  - A. Submittal of a written "Initial Abatement Measures and Site Check" to this department describing actions that have or will be taken to provide for the cleanup and restoration of the contaminated site as required by W.S. 35-11-1426 and Section 24 of Chapter 17, Water Quality Rules and Regulations. This written description would include the following:
    1. Methods to continue to monitor and mitigate any fire and safety hazards posed by vapors or free product that have migrated from the underground storage tank excavation zone and entered subsurface structures (i.e., sewers or basements);
    2. The remedy of hazards posed by the contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner/operator must comply with the applicable department requirements;
    3. The investigation to determine the possible presence of free product AND begin the free product removal as soon as practical and in accordance with Section 24(d), Chapter 17, Water Quality Rules and Regulations.
  - B. Submittal of an "Initial Site Characterization." Owners/Operators shall assemble information about the site and the nature of any release, including information gathered while confirming the release or completing the initial abatement measures required above. This would include:

October 30, 2002

Page 2

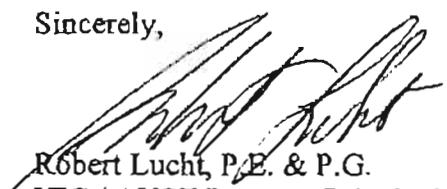
1. Data on the nature and estimated size of any release;
  2. Data on impacted surrounding populations, water quality, use and approximate location of wells affected by the release, subsurface soil conditions, location of subsurface sewers possibly affected by release, and land use of affected areas;
  3. Results of free product investigations required by Section 24(b), Chapter 17, Water Quality Rules and Regulations, to be used by owner/operators to determine whether free product must be recovered under item B above;
  4. Submit the information collected as required by Section 24, Chapter 17, Water Quality Rules and Regulations, to the department in a manner which demonstrates its technical adequacy and applicability.
- C. Submittal of a report detailing the investigation for soil and groundwater cleanup and corrective action as required by Chapter 17, Section 24(e) and Section 24(f), Water Quality Rules and Regulations.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter XIX, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).
  3. Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

**All costs of remediation will be at your expense.**

Next year, this agency will initiate formal enforcement action against owners of contaminated sites who are not covered by the program and who have also not complied with the above requirements.

If you have any questions, feel free to call the office at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
UIC / AUST Program Principal  
Water Quality Division

Enclosure: Delinquent Site Fee Invoice

cc: Facility file #0-000834

UST-Access '97 report FL007



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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September 4, 2002

Ms. Glow Serrano  
P.O. Box 61  
Tie Siding, WY 82084

RE: Tie Siding Leaking Above, Underground Storage Tank (LAUST) Remediation Project

Ms. Serrano:

As you're aware, the Wyoming Department of Environmental Quality, Water Quality Division - LAUST Program (WDEQ) has installed 5 new wells and tested all available wells at the Tie Siding General Store (site). We discussed some of the findings of these activities during my visit with you and Gary last week. You had requested more information on the results for your existing drinking water supply well, which we have identified as Tucker #1.

I've attached 3 pages to this letter to help summarize the results for recent and historical testing at Tucker #1. The first page is a map of the site showing the location of three wells installed in 1994 (MW-1 through MW-3), the location of the 5 new wells (MW-11 through MW-15), and the location of the two domestic wells, Tucker #1 and Pickel #2. The second page shows the concentrations of all wells sampled this summer. The third page shows results for samples collected from MW-1 through MW-3 in 1994. Please note that MW-1 cannot be analyzed due to the presence of free product on top of the water table.

In summary, the significant findings of the subject project are as follows:

1. No fuel contaminants were detected in the Tucker #1 well in 1994 or 2002.
2. MW-2 fuel contaminants levels detected in 1994 are significantly lower in 2002.
3. Product thickness in MW-1 has decreased over time (3.2 feet in 1994, 1.1 feet in 2002).
4. MW-10 and MW-15 will be monitored to ensure that fuel contamination from in front of the store does not migrate towards Tucker #1.
5. Additional free product removal activities at the site are scheduled quarterly into 2004.

I hope that this letter provides the information that you requested. Also, I'd like to take this opportunity to remind you that contaminated site fees (\$200.00) are now due for fiscal year 2003 (July 1, 2002 through June 30, 2003). Current payment of contaminated site fees allows WDEQ to continue remediation efforts at the site. I've attached a two-page invoice (one page is for your records) for your convenience.

)  
Ms. Serrano  
September 4, 2002  
Page 2

I appreciate all of your cooperation during our activities this summer. If you have any questions please contact me at 307-777-7073.

Sincerely,



Adrian Ducharme, P.G.  
AUST/LAUST Project Manager  
Water Quality Division

ALD/bb/2-2725.ltr

ATTACHMENTS

Site map and data (3 pages)  
Invoice (2 pages)

cc: ✓Patti Burns, IPS Supervisor/Facility File #0-000834



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
---	--	--	--	---	--	--

March 21, 2002

Mr. James Windham  
910 Bedford  
Midland, TX 79701

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Windham:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 618.79 acres of land, Geolocator #1372-19-3-00-01300, as shown on the enclosed drawing (abbreviated to '01300'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. James Windham  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0987-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

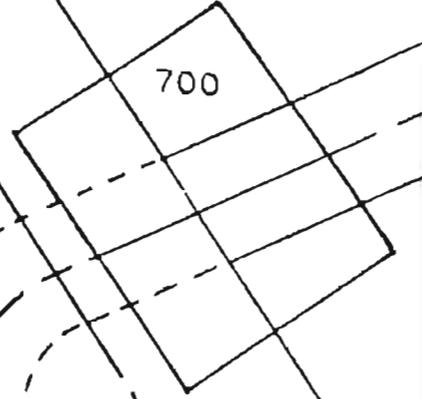
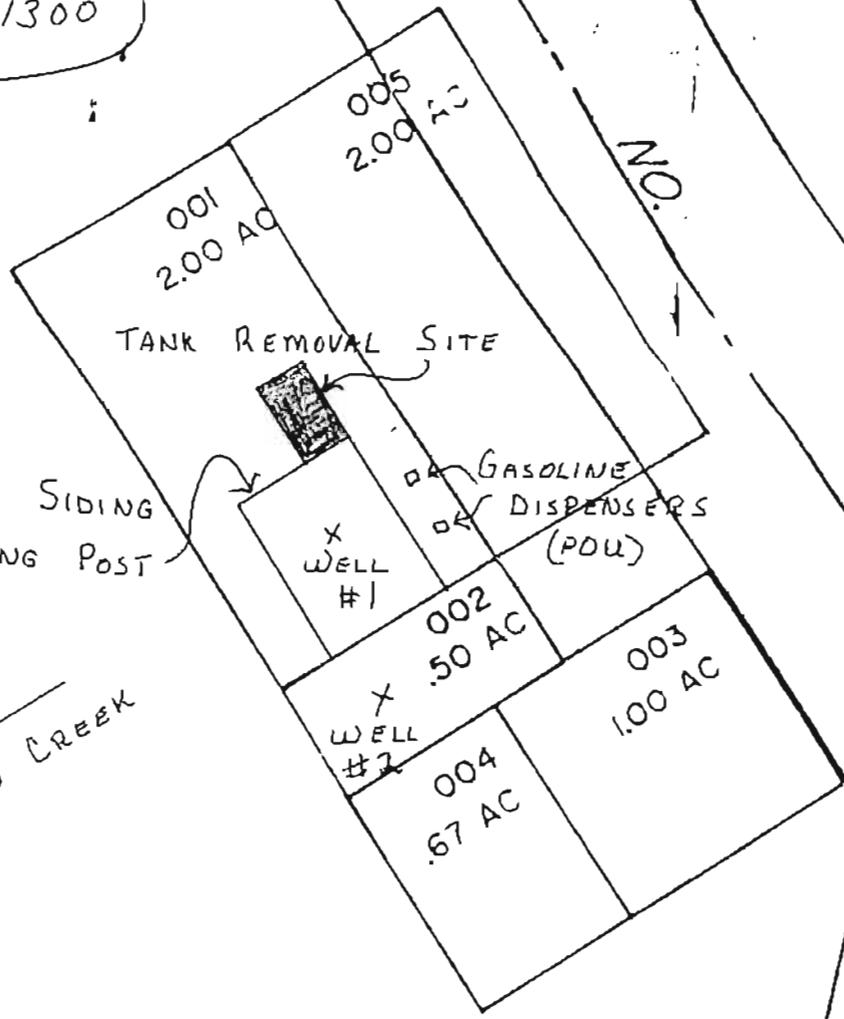
cc: Facility File #00-000834

8/1/66



HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



HIGHWAY 222

TO COLORADO  
BORDER 8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5873	WATER QUALITY (307) 777-7781 FAX 777-5973
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March 21, 2002

Ms. Myrtle Gunderson  
General Delivery  
Tie Siding, WY 82084

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Ms. Gunderson:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 2.00 acres of land, Geolocator #1372-19-2-00-00500, as shown on the enclosed drawing (abbreviated to '005'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Ms. Myrtle Gunderson  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0988-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



TO LARAMIE  
17 MILES

HIGHWAY 287

01300

005  
2.00 AC

001  
2.00 AC

TANK REMOVAL SITE



TIE SIDING  
TRADING POST

X  
WELL  
#1

GASOLINE  
DISPENSERS  
(POU)

002  
.50 AC

X  
WELL  
#2

003  
1.00 AC

004  
.67 AC

700

TO CREEK

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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March 21, 2002

Mr. J. Kennard Windham  
P.O. Box 9935  
Midland, TX 79708

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Windham:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 0.67 acres of land, Geolocator #1372-19-3-00-00400, as shown on the enclosed drawing (abbreviated to '004'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to received duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. J. Kennard Windham  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0986-ltr

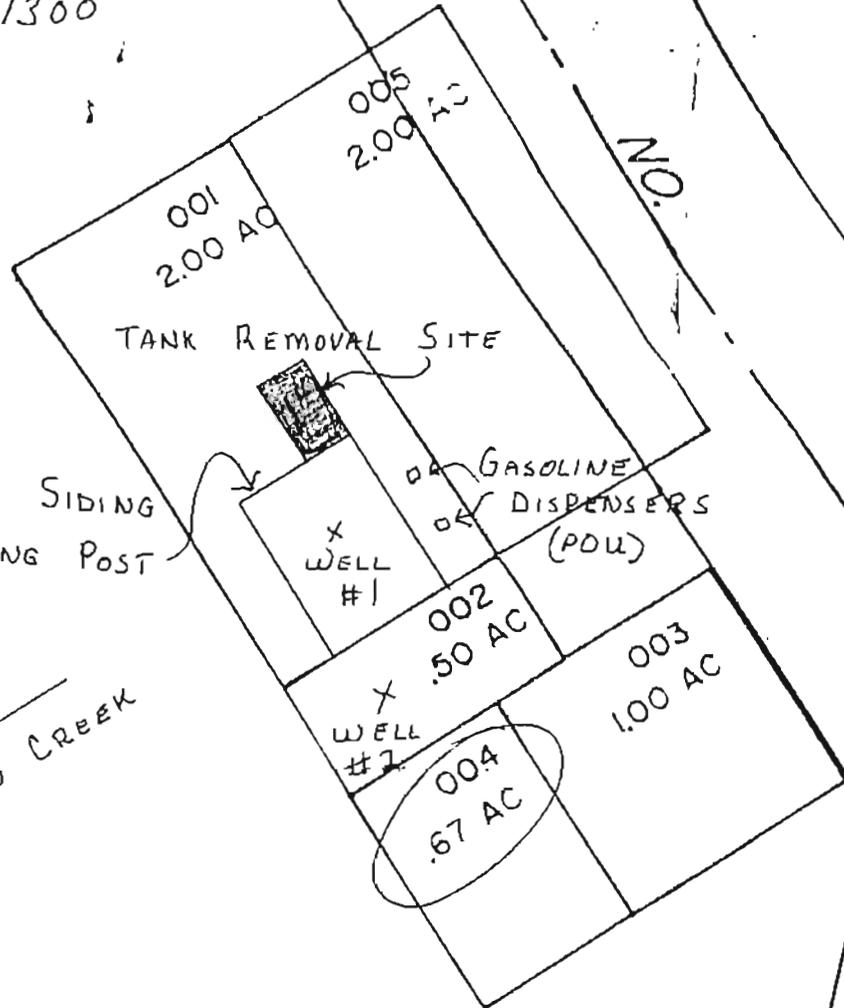
Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



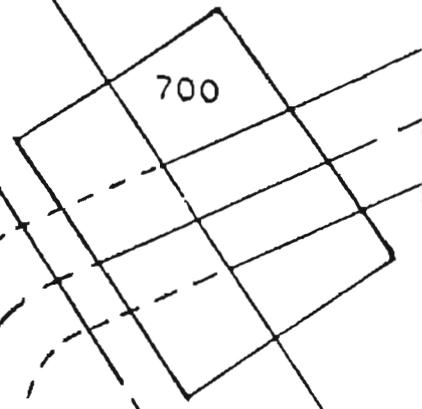
HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



TIE SIDING  
TRADING POST

TO CREEK



700

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-5462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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March 21, 2002

Mr. Billy Pickel  
Box 83  
Tie Siding, WY 82084

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Pickel:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 1.00 acres of land, Geolocator #1372-19-4-00-00300, as shown on the enclosed drawing (abbreviated to '003'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. Billy Pickel  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0983-ltr

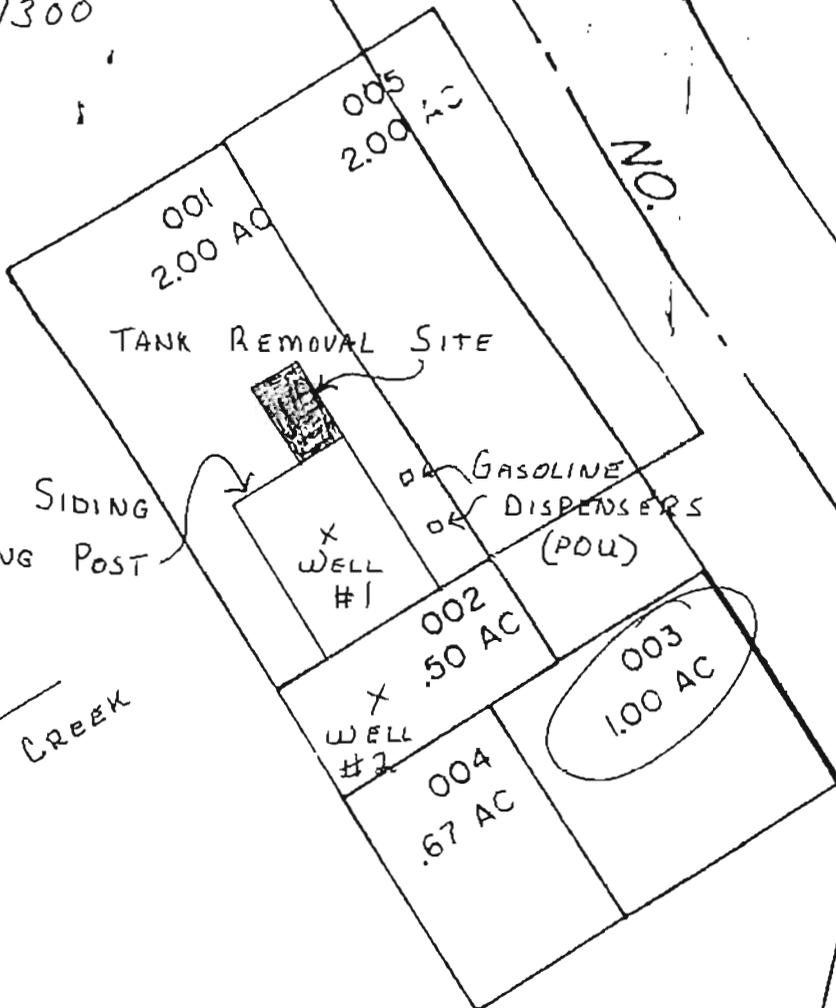
Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



TIE SIDING  
TRADING POST

TO CREEK

GASOLINE  
DISPENSERS  
(POU)

WELL #1

WELL #2

700

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI



The State  
of Wyoming



## Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7761 FAX 777-5973
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March 21, 2002

Dr. Bil Tucker  
817 West 27th  
Cheyenne, WY 82001

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Dr. Tucker:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 0.500 acres of land, Geolocator #1372-19-3-00-00200, as shown on the enclosed drawing (abbreviated to '002'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to received duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Dr. Bil Tucker  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,

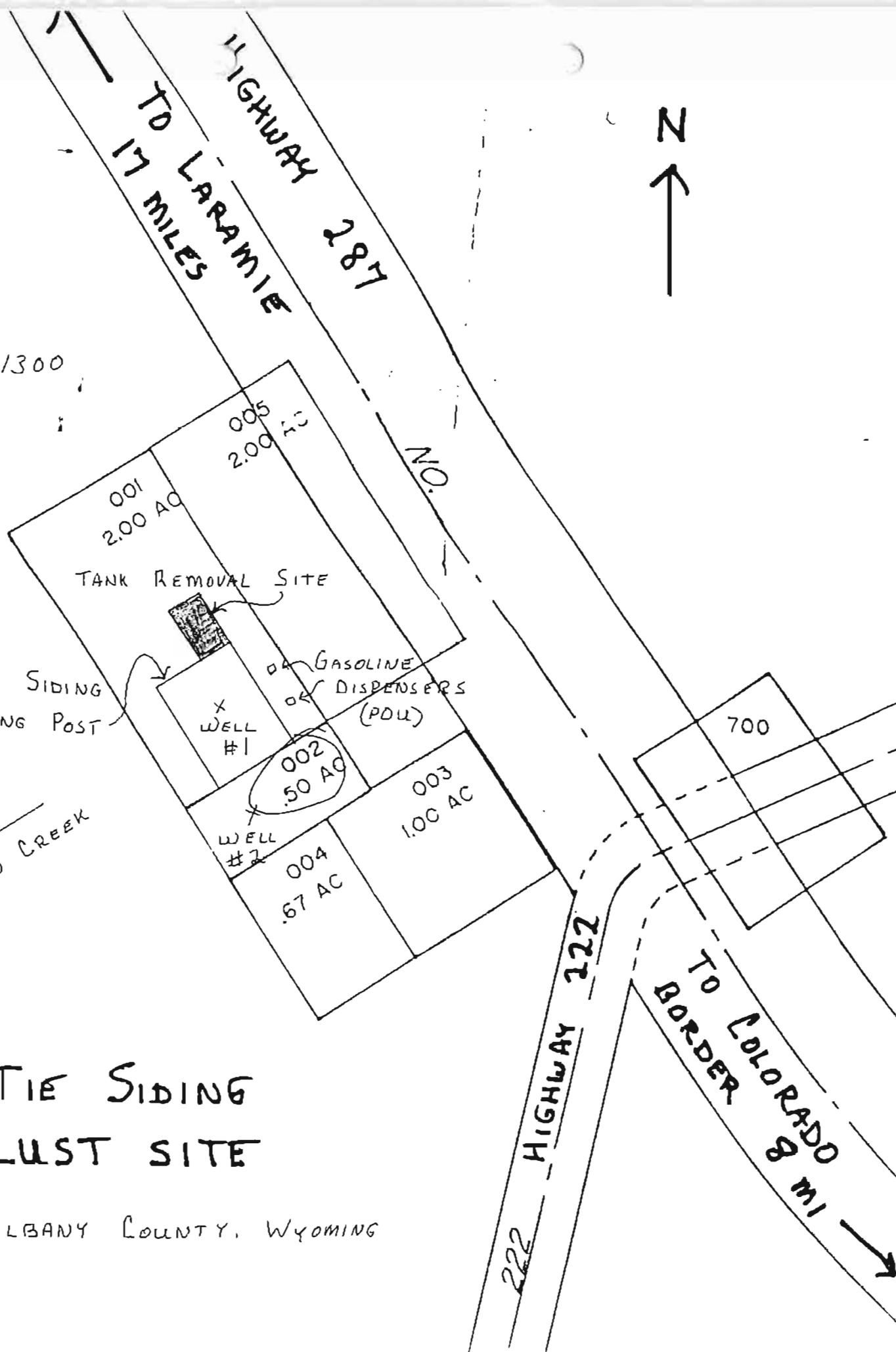


Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0985-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



01300

HIGHWAY 287  
TO LARAMIE  
17 MILES

TANK REMOVAL SITE

WELL #1

WELL #2

GASOLINE  
DISPENSERS  
(PDU)

002  
.50 AC

003  
1.00 AC

004  
.67 AC

005  
2.00 AC

001  
2.00 AC

700

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

TIE SIDING  
TRADING POST

TO CREEK



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SMOG (307) 777-7369 FAX 777-4937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7761 FAX 777-5972
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March 21, 2002

Ms. Glow Serrano  
1721 U.S. Highway  
Tie Siding, WY 82201

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Ms. Serrano:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 2.00 acres of land, Geolocator #1372-19-2-00-00100, as shown on the enclosed drawing (abbreviated to '001'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Ms. Glow Serrano  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,

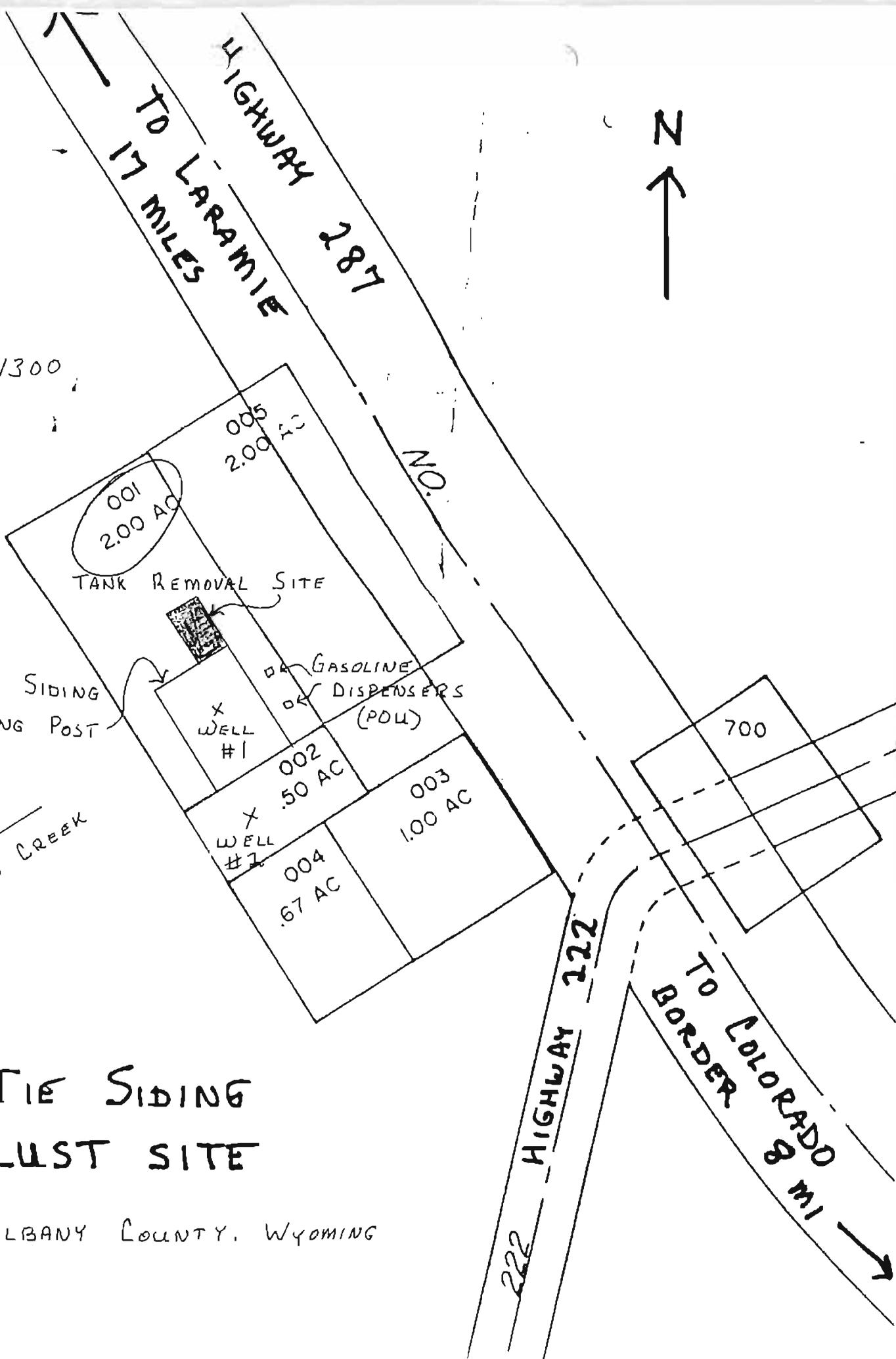


Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0984-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



01300

001  
2.00 AC

005  
2.00 AC

TANK REMOVAL SITE

X  
WELL  
#1

GASOLINE  
OR  
DISPENSERS  
(POU)

002  
.50 AC

X  
WELL  
#2

003  
1.00 AC

004  
.67 AC

700

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

HIGHWAY 222

222

TO COLORADO  
BORDER  
8 MI

TO LARAMIE  
17 MILES

HIGHWAY 287

NO.

TIE SIDING  
TRADING POST

TO CREEK

) )

# MEMO

from the desk of

David "Con" Bratton

11/8/01

Glow Serrano,

Sign and put in the transfer date on the change of ownership form and return it.

Also, here is another invoice for the Contaminated Site Fees that were due July 1, 2001.

I need both of these back ASAP or you could be billed for the cost of cleaning up this site.

If you have any questions call me at 307 777 7619.





The State  
of Wyoming



## Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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September 7, 2001

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US Highway 287  
Tie Siding, WY 82084

**RE: Wyoming Storage Tank Program Requirements; Contaminated Site Fee For Facility #0-000834, Located at Tie Siding**

Dear Ms. Serrano:

As you are aware, the Wyoming Department of Environmental Quality/ Water Quality Division's (WQD) Above and Underground Storage Tank Program (AUST) is initiating a project to investigate and remediate soil and ground water impacts related to releases from at least one suspected leaking underground storage tank site and third party affected properties in the Tie siding area. WQD anticipates that work on this project will commence during the spring of 2002, possibly as early as April 1, 2002.

Wyoming Statute 35-11-1424 (e) requires that the owner of a contaminated site pay an annual fee of \$200.00 for a period of ten years, at which time the fee lapses until the beginning of corrective action. The fiscal year (July 1 through June 30) in which corrective action commences triggers the re-initiation of the annual fee, which continues until corrective action is finished. The initial ten year payment requirement was satisfied with the fiscal year 2000 payment.

Because corrective action work will begin before the end of this fiscal year (FY 2002), the annual fee is now due and payable. Attached please find an invoice for the \$200.00 fee. To remain eligible for the Corrective Action Program, the annual fee must be paid through the end of corrective action work. Please include your facility ID number on your check.

Please call me at 307-777-5877 should you have any questions.

Sincerely,

Paul Hildenbrand, P.G.  
Southeast District Supervisor  
AUST/LAUST Program  
Water Quality Division

PRH/mad/12328-ltr

Attachment: FY 2002 Contaminated Site Fee Invoice

cc: Patti Burns, IPS Supervisor  
Facility File #0-000834



JIM GERINGER  
GOVERNOR

## Department of Environmental Quality

Herschler Building ● 122 West 25th Street ● Cheyenne, Wyoming 82002

ADMINISTRATION (307) 777-7758 FAX 777-7682	ABANDONED MINES (307) 777-8145 FAX 634-0799	AIR QUALITY (307) 777-7391 FAX 777-7682	INDUSTRIAL SITING (307) 777-7368 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 634-0799	SOLID & HAZARDOUS WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-6973
--	---	---	---	--	---	---

July 25, 2001

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US HWY 287  
Tie Siding, WY 82084

Re: Tie Siding area Leaking Underground Storage Tank (LUST) Project  
Pre-bid Contractor's Tour of Impacted Sites

Dear Ms. Serrano:

As you have been made aware through past personal visits, phone calls, and written correspondence, the Wyoming Department of Environmental Quality (WDEQ) Aboveground and Underground Storage Tank (AUST) Program will be initiating a project to investigate soil and ground water impacts related to releases from approximately one (1) suspected leaking underground storage tank (LUST) site and third-party affected properties in the Tie Siding area.

As the first step toward actually initiating the subsurface investigation work the WDEQ will conduct a pre-bid tour for contractors that will be bidding on the work. All interested parties will meet at 10:00 in the morning Friday, August 10, 2001 in the parking lot of the Tie Siding General Store at 1741 US Hwy. 287, Tie Siding Wyoming. A discussion of the scope of the project will start the meeting, any questions or concerns the bidders may have will be answered, then the group will be taken to some of the various areas so that they can assess the working conditions for themselves prior to submitting work plans and bids. The effort will be made to visit all of the critical areas. Please do not be alarmed if a large group of people show up on your property that day! We will be careful not to disrupt your business any more than is absolutely necessary.

If you have questions concerning the Tie Siding Project please contact me at the Cheyenne WDEQ office, at (307) 777-7073.

Sincerely,

Lee Dlug  
Sr. Environmental Analyst  
LAUST/AUST Program  
Water Quality Division

LD/mad/11882-ltr

cc: File 0-000834

Paul Hildenbrand, S.E. District Supervisor, LAUST/AUST Program, Water Quality Division.

# MEMO

from the desk of

David "Con" Bratton

4/19/01

Gary,

Here is the change of ownership form, have Glow sign the left side under the New Owner information. Check the information, change if necessary, and return ATTN Con Bratton.

Thanx,



David "Con" Bratton

Glow now is the owner 4/19/01



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
--	---	---	---	--	--	---

October 3, 2000

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US Hwy 287  
Tie Siding, WY 82084

**RE: Well Water Sampling; Facility 0-000834, Located at 1741 US Hwy. 287, Tie Siding, Wyoming**

Dear Ms. Serrano:

The Wyoming Department of Environmental Quality, Water Quality Division (WDEQ/WQD), has completed it's review of the analysis results from water samples collected from the water supply at the former underground storage tank (UST) facility referenced above. You may wish to keep this letter and enclosures in your files as record of the well history for this location.

The samples were collected to confirm that well waters contain fuel concentrations that are below the regulatory limits. The samples were submitted to an approved laboratory for testing of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE, and for total lead, cadmium, and chrome. All laboratory test results indicate that there is no contamination within the well waters. Photocopies of the laboratory reports are enclosed.

If you have any comments or questions, please feel free to call me at (307) 777-7073.

Sincerely,

Lee Dlug  
Sr. Environmental Analyst  
LAUST Program  
Water Quality Division

LRD/bb/02522.ltr  
Enclosure: Laboratory results  
cc: file 0-000834  
Clay Rowley

1/30/01

Received a call from Bill Tucker Tie Siding Facility 0000834 Requesting the status of remediation for this site. Status Quo will start late this spring. Call when more definite word is out. June 4, 2001

Con



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

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ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
--	---	---	---	--	--	---

August 14, 2000

Re: Contaminated site fees for facility 834

Mr. Bill Tucker:

The enclosed invoice for \$200.00 is for the tenth annual contaminated site fee that was due July 1, 1999. This is for the contamination found when the under ground storage tanks were removed from the Tie Siding General Store located in Tie Siding, Wyoming. The fees will stop after this payment. When active remediation begins they will resume at the rate of \$200.00 annually and continue until the remediation is complete.

Payment of the fee by Mr. Bill Tucker was stipulated in the contract for sale of this property. This letter is to request that said payment be forth coming.

Failure to pay this fee will remove you from the state remediation program and will make you responsible for the complete cost of remediation for this site.

If you have any questions feel free to contact me at 307-777-7619.

Sincerely,

David "Con" Bratton  
UST Program Specialist  
Water Quality Division

DCB/mad/02082-ltr

Attachment: UST Registration Invoice

cc: Facility File 834



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

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--	---	---	---	--	--	---

August 14, 2000

Ms. Debbie Grooman  
First National Bank of Wyoming  
2020 Grand Avenue  
Laramie, WY 82070

Dear Debbie:

Thank you so much for the help you gave me on the phone today. I have enclosed the letter we discussed and will appreciate your assistance in seeing that it gets to the appropriate party.

If you have any questions or problems feel free to contact me at 307-777-7619.

Sincerely,

David "Con" Bratton  
UST Program Specialist  
Water Quality Division

DCB/mad/02082-ltr

cc: Facility File 834

**From:** David Con Bratton  
**Date:** 8/14/00  
**Subject:** Site fees for Fac 834

9:30AM Phoned Debbie Grooman First National Bank of WY 307 745 7351 about an address for Bil Tucker.  
10:30AM Received a call back from Debbie Said she couldn't release that info. Agreed to forward a letter if I sent it over. Done. <sup>2058</sup>  
Called Gary Waterhouse 307 760 ~~2985~~ and passed on the info from the bank. Reminded him that Glow is responsible if this didn't work.

Paul, office phone 721 8139

;

**Date:** 8/12/00  
**Subject:** Visit to Facility 834

Contacted Glo Serrano reference payment of site fees for Tie Siding General store. Also spoke with Mr Gary Waterhouse 307 760 2058 same subject. Found that Bil Tucker the previous owner is responsible for payment in the sales contract now lives in Indonesia. Obtained the Debbie Brooman from First National Bank of Wyoming 2020 Grand Ave Laramie 82070 as the holder of escrow. Will write to Bil through FNB.

Con Bratton

Phoral  
745 7351

First National Bank of Wyo  
745 7351

UNI Wyo FCU  
766 4800

200 Due -

- GLO FERRANO -
- GARY Waterhouse - 760 2058
- Bil Tucker -

- Debbie

@ First National Bank of Wyo  
HANDLES MFG 2020 GRANT

82070

Start in 2-5 yds

LeRoy

Possible core out and do some testing  
Fractured rock hard to clean

- Debbie GROOMAN
- HAS CONTACT WITH SON

**Date:** 4/24/00  
**Subject:** TIE SIDING GENERAL STORE 0-000834

Called Bil Tucker several times at the different numbers in the file. Could not get ahold of him. The Albany County Assessor's Office said that the owner of the property is Glow E. Serrano, P.O. Box 61, Tie Siding, WY 82084. Sent a change of ownership form and bill to her. Clay said there is some sort of agreement between Ms. Serrano and Bil Tucker that Bil will remain responsible for the fee. I said that is between Ms. Serrano and Mr. Tucker, but if Mr. Tucker does not pay then Ms. Serrano is responsible under the wording of the law. It is not our responsibility to try to enforce agreements between third parties.



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



# Department of Environmental Quality

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Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7381

Land Quality Division  
(307) 777-7758  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-6973

July 23, 1993

Mr. J. Kennard Windham  
c/o Mr. James T. Windham  
910 Bedford  
Midland, TX 79701

RE: Subsurface Investigation: Tie Siding, #0247-Z  
Facility ID # ~~860~~ 834

Dear Mr. Windham:

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

Enclosed is an easement form which, when signed by you, will allow the DEQ/WQD to drill bore holes and install monitoring wells on your property. The DEQ/WQD will conduct all drilling in a manner so as to minimize any disruptions to your property or business. The groundwater samples taken from groundwater monitoring wells will be analyzed in a laboratory to determine the types and concentrations (amount of chemical contaminants) present. The information gathered will be most beneficial in designing and developing a system to remove these contaminants from the soil and groundwater.

*1741*  
*1743*  
*HIGHWAY 287*  
*HIGHWAY 287*  
*PARCEL #*  
*1872193000*  
*1370192000*

Mr. J. Kennard Windham  
July 23, 1993  
Page 2

Pursuant to Wyoming's corrective action program, "Water Pollution from underground storage tanks (USTs) Corrective Action of 1990", we are required to provide you, should you so desire, a duplicate sample of the groundwater we will sample from water wells on your property.

You will be provided a copy of the laboratory result from the sample we will be taking whether you sign a duplicate sample waiver or not. However, if you choose to request a duplicate sample analysis, you will be responsible for any costs associated with the necessary lab work. If you do not wish to have a duplicate sample taken, please read and sign the enclosed "Waiver of Duplicate Sample" form, and return it to me at the DEQ/WQD, Cheyenne.

If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 33284.LTR

Enclosures: Access and Use Easement, and Waiver of Duplicate Samples forms

xc: Clay Rowley, SE District UST Supervisor

## ACCESS AND USE EASEMENT

For and in consideration of the mutual benefits to be derived by the parties to this access and use easement, and for other valuable considerations, James Kennard Windham, hereinafter referred to as the Grantor, hereby grants to the Department of Environmental Quality, hereinafter referred to as the Grantee, the right to conduct, operate and maintain a soil and groundwater contamination remediation recovery and stabilization system on the following described lands located in the State of Wyoming, to wit:

A tract of land in Section 19, Township 13 North, Range 72 West of the 6th P.M., Albany County, Wyoming.

The access and use easement hereby granted being more particularly described as follows:

Beginning at a point whence the Northwest corner of Section 19, Township 13 North, Range 72 West bears North  $41^{\circ}22'$  West 3364 feet; thence South  $36^{\circ}22'$  East 521.78 feet along the West boundary line of the right of way of State Highway No. 287 to a point at the Northeast corner of the one acre tract; thence South  $36^{\circ}22'$  East 208.71 feet; thence South  $53^{\circ}38'$  West 208.71 feet; thence North  $36^{\circ}22'$  West 208.71 feet; thence North  $53^{\circ}38'$  East 208.71 feet to the Northeast corner of the one acre tract.

### EXCEPTING THEREFROM

Beginning at a point on the Westerly right of way line of U.S. 287, which bears South  $89^{\circ}08'07''$  East, (previously shown as South  $89^{\circ}11'00''$  East) 540.68 feet and south  $36^{\circ}26'00''$  East) 3551.95 feet from the Northwest corner (a well set granite stone) of said section 19; thence south  $36^{\circ}26'00''$  East, 169.29 feet along said right of way to the beginning of a  $1^{\circ}54'59''$  circular curve concave Northeasterly having a radius of 2989.79 feet and a delta of  $32^{\circ}17'$ ; thence along said curve, a distance of 43.61 feet, the chord of which bears South  $36^{\circ}51'05''$  East, 43.61 feet; thence South  $54^{\circ}40'01''$  West, 211.12 feet; thence North  $35^{\circ}35'4''$  West, 205.57 feet; thence North  $52^{\circ}39'26''$  East, 207.75 feet to the point of beginning.

**PHASE I** - Installation of borings and/or monitoring wells at the locations shown on Figure 2 attached to this agreement. Exact locations of the borings and wells will be agreed upon by an authorized representative of the Grantee and the Grantor.

**PHASE II** - Installation and operations of a petroleum hydrocarbon contamination remediation system. Exact location will be agreed upon by an authorized representative of the Grantee and the Grantor.

Grantor grants the right of ingress and egress to and from the said land for any and all purposes necessary and incident to the exercise by the Grantee, and its employees or independent contractors, of the rights granted by this conveyance.

Grantor will not attempt to interfere with the Grantee in the conduct of its operations for any purpose whatsoever; that exclusive use is hereby granted to the Grantee.

This easement is granted only upon the express condition that the Grantee shall have the responsibility of properly plugging and capping any drilling holes it has drilled as part of this easement when it has finished collecting any and all data from said drilling holes, removal of all above ground structures and equipment when soil and groundwater contamination remediation is complete, and repair all damage to sidewalks and paved areas caused by Grantee to Grantor's satisfaction.

The Grantor does not, by this easement, require that the Grantee waive its sovereign immunity by entering into this easement. The Grantee fully retains all immunities and defenses provided by law with regard to any action based on this easement.

\_\_\_\_\_  
Grantor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Senior Analyst  
UST/LUST Program  
Water Quality Division  
Department of Environmental Quality

/nc 33284.LTR



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7391

Land Quality Division  
(307) 777-7756

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781

## WAIVER OF DUPLICATE SAMPLE

I/we [own/operate] the following property, located at: (facility name, street address, city/town, facility ID number):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I/we understand that if samples are taken by an authorized representative of the Wyoming Department of Environmental Quality on this property, I/we have a right to obtain a duplicate sample from such representative at the time of the taking of the sample.

I/we understand that I/we may have such a duplicate sample separately tested, at my own expense, in order to confirm any testing done by the Wyoming Department of Environmental Quality.

Being aware of my right to be provided a duplicate sample, however, I/we hereby waive any and all rights to have such duplicate sample provided to me by the Wyoming Department of Environmental Quality.

Signature \_\_\_\_\_

Print Signature \_\_\_\_\_

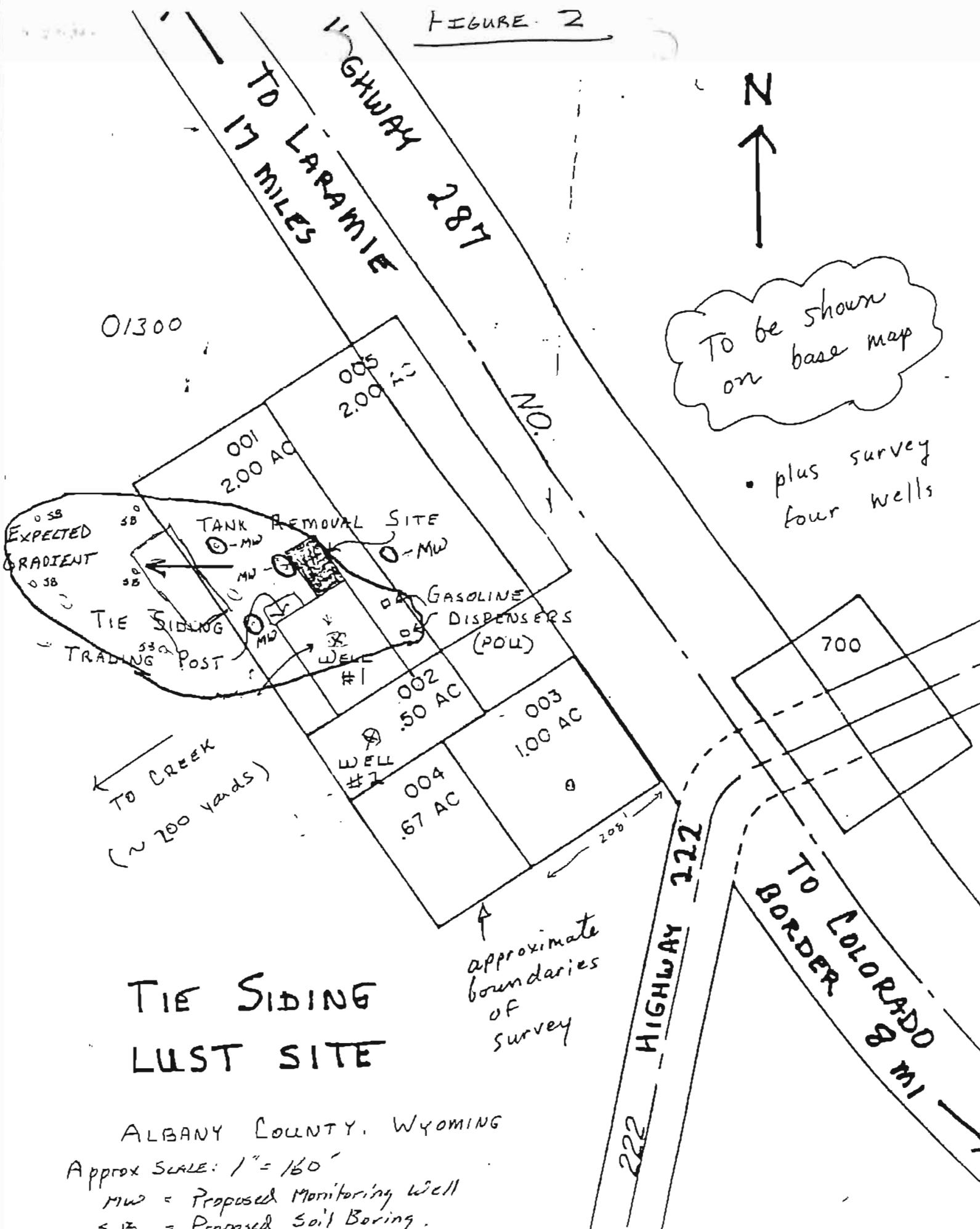
Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date \_\_\_\_\_

FIGURE 2



# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

Approx SCALE: 1" = 160'

- MW = Proposed Monitoring Well
- SB = Proposed Soil Boring.



THE STATE OF WYOMING



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Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7391

Land Quality Division  
(307) 777-7766  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-5973

July 20, 1993

Mr. James T. Windham  
910 Bedford  
Midland, TX 79701

RE: Subsurface Investigation: Tie Siding, #0247-Z  
Facility ID # 863

Dear Mr. Windham,

*860 834*

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

Enclosed is an easement form which, when signed by you, will allow the DEQ/WQD to drill bore holes and install monitoring wells on your property. The DEQ/WQD will conduct all drilling in a manner so as to minimize any disruptions to your property or business. The groundwater samples taken from groundwater monitoring wells will be analyzed in a laboratory to determine the types and concentrations (amount of chemical contaminants) present. The information gathered will be most beneficial in designing and developing a system to remove these contaminants from the soil and groundwater.

Pursuant to Wyoming's corrective action program, "Water Pollution from underground storage tanks (USTs) Corrective Action of 1990", we are required to provide you, should you so desire, a duplicate sample of the groundwater we will sample from water wells on your property.

July 20, 1993  
Page 2

You will be provided a copy of the laboratory result from the sample we will be taking whether you sign a duplicate sample waiver or not. However, if you choose to request a duplicate sample analysis, you will be responsible for any costs associated with the necessary lab work. If you do not wish to have a duplicate sample taken, please read and sign the enclosed "Waiver of duplicate Sample" form, and return it to me at the DEQ/WQD, Cheyenne.

If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/mad 33352.LTR

✓ cc: Clay Rowley, SE District UST Supervisor



THE STATE OF WYOMING



MIKE SULLIVAN  
GOVERNOR

# Department of Environmental Quality

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July 15, 1993

Mr. J. Kennard Windham  
P.O. Box 9935  
Midland, TX 79708

*wrong address*

RE: Subsurface Investigation: Tie Siding, #0247-Z  
 Facility ID # ~~863~~ *860 834*

Dear Mr. Windham:

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

Enclosed is an easement form which, when signed by you, will allow the DEQ/WQD to drill bore holes and install monitoring wells on your property. The DEQ/WQD will conduct all drilling in a manner so as to minimize any disruptions to your property or business. The groundwater samples taken from groundwater monitoring wells will be analyzed in a laboratory to determine the types and concentrations (amount of chemical contaminants) present. The information gathered will be most beneficial in designing and developing a system to remove these contaminants from the soil and groundwater.

Pursuant to Wyoming's corrective action program, "Water Pollution from underground storage tanks (USTs) Corrective Action of 1990", we are required to provide you, should you so desire, a duplicate sample of the groundwater we will sample from water wells on your property.

Mr. J. Kennard Windham  
July 15, 1993  
Page 2

You will be provided a copy of the laboratory result from the sample we will be taking whether you sign a duplicate sample waiver or not. However, if you choose to request a duplicate sample analysis, you will be responsible for any costs associated with the necessary lab work. If you do not wish to have a duplicate sample taken, please read and sign the enclosed "Waiver of Duplicate Sample" form, and return it to me at the DEQ/WQD, Cheyenne.

If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 33284.LTR

Enclosures: Access and Use Easement, and Waiver of Duplicate Samples forms

xc: Clay Rowley, SE District UST Supervisor



THE STATE OF WYOMING

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# Department of Environmental Quality

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June 11, 1993

Mr. Warren T. Maierhofer  
Applied EcoSystems  
Suite 101-1415 Wewatta Street  
Denver, CO 80202

RE: Tie Siding Lust Subsurface Investigation, Wyoming Bid No. 0247-Z.

Dear Mr. Maierhofer:

This letter shall serve as Notice to Proceed with work on the above referenced project. In accordance with the "Schedule for Completion of Work", please contact me to schedule the Site Evaluation Planning meeting at the DEQ office in Cheyenne to take place within 20 days of receipt of this Notice to Proceed.

Please contact me if you have any questions regarding this matter.

Sincerely,

Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 32834.LTR  
xc: Clay Rowley, SE District UST Supervisor  
E.J. Fanning, DEQ/WQD, Cheyenne  
David Welshens, DAI, Cheyenne  
Notification File #834  
File, Tie Siding SSI  
Shawn Sullivan, LUST Program Principle



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# Department of Environmental Quality

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March 5, 1993

Ms. Glow Serrano  
Tie Siding General Store  
Tie Siding, WY 82084

RE: Subsurface Investigation Site Visit, Tie Siding General Store,  
Tie Siding, Wyoming. UST Facility ID #834.

Dear Ms. Serrano,

The contracting procedure for the subsurface investigation has commenced for the Tie Siding General Store leaking underground storage tank (LUST) site. This procedure involves, among other things, an on-site visit by potential contractors of the project. This visit, involving visual observation, is done to familiarize the potential contractors with the site conditions. This letter is to inform you that the site visit is scheduled for 10:00 am, April 1, 1993, at the Tie Siding General Store.

If this presents any problems, or if you have any questions, please call me immediately at (307) 777-7073.

Sincerely,

Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

xc: Clay Rowley, SE District UST Supervisor  
E.J. Fanning, LUST Remediation Senior Environmental Analyst  
Notification File ✓

RAP:jmm 31000.ltr

MEMORANDUM

FROM: ED MOCK, LABORATORY SUPERVISOR *aw*  
TO: ROLAND PETERSON  
DATE: 20 JANUARY 1993  
SUBJECT: SAMPLE RESULTS

1. The following are the results that you requested:

UST#	SITE	DATE	B	E	T	X	TPH	TPHC
3891	MOUNTAIN CEMENT	6/10/91	2833	398	5274	5293	8	
3891	MOUNTAIN CEMENT	6/10/91	268	147	1074	1807	12	
<u>1893</u>	LARMAIE HEATING	10/25/88	1200	458	2264	2204		2748
<del>834-843</del>	TIE SIDING GEN ST	6/27/90	108	27.4	<0.5	424		

NOTES: BETX RESULTS IN UG/L, TPH AND TPHC IN MG/L. TPHC= TOTAL PURGE AND TRAP HYDROCARBONS.



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



## Department of Environmental Quality

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FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-5973

June 3, 1991

Owner

Location

TIE SIDING GENERAL STORE INC  
P O BOX 1975  
TIE SIDING, WY 82084

TIE SIDING GENERAL STORE INC  
P O BOX 1975  
TIE SIDING, WY 82084

RE: LUST Annual Contaminated Site Fee for Facility ID 0000834

Dear Sir:

The purpose of this letter is to request payment of an annual \$200 per site fee associated with a contaminated site caused by an UST registered in your name with this department. The Water Pollution from Underground Storage Tanks Act, W.S. 35-11-1424, created a corrective action account which provides for financial assurance coverage required by federal law and is to be used by the department to take corrective actions in response to releases from UST facilities.

The department has established a priority list of sites contaminated by USTs, and your site is included on this list for future cleanup at state expense. The \$200 annual site fee payment is due to the department on or before July 1 of each year until such time that site has been fully remediated. Sites will be remediated according to their position on the priority listing which primarily considers potential toxicological impact to nearby occupied structures or public utilities and potential contamination of groundwaters of the state. If your site has been determined by the state as being contaminated and you also have an UST system which is currently in use at the same location and you are paying your annual \$200 per tank registration fee, you do not have to pay the contaminated site fee.

In Summary:

1. The 1991 site fee of \$200 per site (check or money order payable to the Wyoming Department of Environmental Quality, Water Quality Division) is due to the Water Quality Division on July 1, 1991, and, on or before July 1 for each following year, until the site has been successfully remediated by the state. Please return a copy of the site fee invoice with your payment. Payment will not be accepted without the invoice and check or money order.

2. If there is new information which would change the status or affect information contained on the UST Registration/Notification Form previously submitted to the department, please provide the updated information on a new form which may be obtained by telephoning 307-777-7783.
3. If you have already been notified of the requirement to pay the "1990" site fee and have not paid the fee, please call 307-777-7783 at once.
4. If you have an existing UST system for which you are currently paying annual tank fees on the same site, only pay the tank registration fee.
5. If, after reading this letter, you have further questions, please contact the department by telephoning 307-777-7783.

Sincerely,



Leroy C. Feusner, P.E., DEE  
UST Program Supervisor  
Water Quality Division

LCF/CWP/pjb



# Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

September 13, 2004

## CERTIFIED

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

You are being sent this letter because the annual Contaminated Site Fee for this facility has not been received by this department. Payment of the contaminated site fee is voluntary; however, those who elect not to pay are subject to the following requirements:

1. Within 60 days:
  - A. Submittal of a written "Initial Abatement Measures and Site Check" to this department describing actions that have or will be taken to provide for the cleanup and restoration of the contaminated site as required by W.S. 35-11-1426 and Section 24 of Chapter 17, Water Quality Rules and Regulations. This written description would include the following:
    1. Methods to continue to monitor and mitigate any fire and safety hazards posed by vapors or free product that have migrated from the underground storage tank excavation zone and entered subsurface structures (i.e., sewers or basements);
    2. The remedy of hazards posed by the contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner/operator must comply with the applicable department requirements;
    3. The investigation to determine the possible presence of free product AND begin the free product removal as soon as practical and in accordance with Section 24(d), Chapter 17, Water Quality Rules and Regulations.
  - B. Submittal of an "Initial Site Characterization." Owners/Operators shall assemble information about the site and the nature of any release, including information gathered while confirming the release or completing the initial abatement measures required above. This would include:

Herschler Building • 122 West 25th Street • Cheyenne, WY 82002 • <http://deq.state.wy.us>

ADMIN/OUTREACH  
(307) 777-7758  
FAX 777-3610

ABANDONED MINES  
(307) 777-6145  
FAX 777-6462

AIR QUALITY  
(307) 777-7391  
FAX 777-5616

INDUSTRIAL SITING  
(307) 777-7369  
FAX 777-6937

LAND QUALITY  
(307) 777-7756  
FAX 777-5864

SOLID & HAZ WASTE  
(307) 777-7752  
FAX 777-5973

WATER QUALITY  
(307) 777-7781  
FAX 777-5973



September 13, 2004

Page 2

1. Data on the nature and estimated size of any release;
  2. Data on impacted surrounding populations, water quality, use and approximate location of wells affected by the release, subsurface soil conditions, location of subsurface sewers possibly affected by release, and land use of affected areas;
  3. Results of free product investigations required by Section 24(b), Chapter 17, Water Quality Rules and Regulations, to be used by owner/operators to determine whether free product must be recovered under item B above;
  4. Submit the information collected as required by Section 24, Chapter 17, Water Quality Rules and Regulations, to the department in a manner which demonstrates its technical adequacy and applicability.
- C. Submittal of a report detailing the investigation for soil and groundwater cleanup and corrective action as required by Chapter 17, Section 24(e) and Section 24(f), Water Quality Rules and Regulations.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter XIX, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).
  3. Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

**All costs of remediation will be at your expense.**

Next year, this agency will initiate formal enforcement action against owners of contaminated sites who are not covered by the program and who have also not complied with the above requirements.

If you have any questions, feel free to call the office at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
AUC / AUST Program Principal  
Water Quality Division

Enclosure: Delinquent Site Fee Invoice

cc: Facility file #0-000834

**Bob Lucht - TIE SIDING GENERAL STORE 0-000834**

---

**From:**

**Date:** 9/18/03

**Subject:** TIE SIDING GENERAL STORE 0-000834

---

Called Glow E. Serano at (307) 721-8139 (post office). The other number is (307) 724-0460. The number in the database is a cell phone for Gary, who is in Iowa now. Glow asked me to FAX the bill to (307) 745-0460 so I did.

Confirmation Report - Memory Send

Date & Time: 09-18-2003 02:14pm  
Tel line : +  
Machine ID : ST. WY. D.E.Q.

Job number : 328  
Date & Time : 09-18 02:08pm  
To : 913077450460  
Number of pages : 002  
Start time : 09-18 02:12pm  
End time : 09-18 02:14pm  
Pages sent : 002  
Status : OK

Job number : 328 \*\*\* SEND SUCCESSFUL \*\*\*

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION  
UNDERGROUND STORAGE TANK PROGRAM  
HERSCHLER BUILDING, 122 WEST 25TH STREET  
CHEYENNE, WYOMING 82002  
FAX TRANSMISSION

Date: September 18, 2003

FAX Number (307) 745-0460

Number of pages : 2 (including cover sheet)

Dear Glow Serrano:

0-000834

Serrano, Glow E

From: Robert F. Lucht, P.E. & P.G., Storage Tank Program

Return FAX Number: (307) 777-5973

Return Telephone Number: (307) 777-7095

Comments:

Contaminated site invoice for facility 0-000834, Tio Siding General Store.



The State of Wyoming

834



# Department of Environmental Quality

Dave Freudenthal, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307)777-7758 FAX 777-3610	ABANDONED MINES (307)777-6145 FAX 777-6462	AIR QUALITY (307)777-7391 FAX 777-5616	INDUSTRIAL SITING (307)777-7369 FAX 777-6937	LAND QUALITY (307)777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307)777-7752 FAX 777-5973	WATER QUALITY (307)777-7781 FAX 777-5973
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August 1, 2003

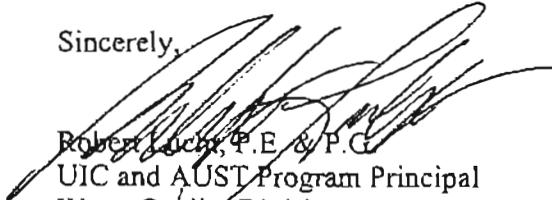
Dear Underground Storage Tank Owner / Operator

As of this date, the underground storage tank fees for your tank(s) or the contaminated site fees for your contaminated site(s) for Fiscal Year 2004 are overdue by 30 days. These fees are due by statute on July 1 of each year. Payment of these fees, on time, is one of the statutory requirements to remain eligible for the State of Wyoming Corrective Action Account which pays to clean up your site if a release occurs, and to remain eligible for the State of Wyoming Financial Assurance Account which covers your liability if a judgement is rendered against you as a result of a release. Your failure to pay these fees on time threatens your eligibility for these two important benefits. Please pay the invoice which was sent to you in May immediately.

If you have any questions concerning these fees, or any thing else concerning underground storage tanks, please do not hesitate to call me at (307) 777-7095, by FAX to (307) 777-5973 or by internet to [blucht@state.wv.us](mailto:blucht@state.wv.us).

The Underground Storage Tank program is set up to prevent some very serious problems caused by leaking tanks. Our program is focused on preventing leaks through proper maintenance of cathodic protection systems and liners, and detecting leaks before they become to serious through monthly and annual leak detection tests. Potential problems which can be caused by leaks include contamination of domestic water wells, fires and explosions caused by vapors accumulating in basements and utility spaces, and serious health affects caused by exposures to toxic vapors. Your cooperation with our program is sincerely appreciated.

Sincerely,



Robert Loch, P.E. & P.C.  
UIC and AUST Program Principal  
Water Quality Division



Dave Freudenthal,  
Governor

The State  
of Wyoming

# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002



ADMIN/OUTREACH 307-777-7758 FAX 777-3610	ABANDONED MINES 307-777-6145 FAX 777-6462	AIR QUALITY 307-777-7391 FAX 777-5616	INDUSTRIAL SITING 307-777-7369 FAX 777-8937	LAND QUALITY 307-777-7756 FAX 777-5864	SOLID & HAZ. WASTE 307-777-7752 FAX 777-5973	WATER QUALITY 307-777-7761 FAX 777-5973
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February 19, 2003

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

The Department of Environmental Quality is considering legal action and penalties in order to collect delinquent Above/Underground Storage Tank fees.

You are being sent this letter because the annual Storage Tank registration fees for this facility are delinquent.

*MARCH 15, 2003*

1. You must pay the delinquent fees by , or face a formal enforcement action. As part of such an action, this department intends to propose penalties.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter 19, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).

Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

SCANNED

**All costs of remediation will be at your expense.**

Participating in the Wyoming UST Program by paying all your fees provides you with two benefits:



Dave Freudenthal, Governor

ADMIN/OUTREACH ABA  
307-777-7758  
FAX 777-3810

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Glow E. Serrano  
P.O. Box 61  
Tie Siding WY 82084

2. Article Number (Copy from service label)

PS Form 3811, July 1999

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

B. Date of Delivery

G. Serrano 2-27-03

H. Signature X [Signature]

Agent  
 Addressee

D. Is delivery address different from item 1?  Yes  
If YES, enter delivery address below:  No

3. Service Type

- Certified Mail
- Registered
- Insured Mail
- Express Mail
- Return Receipt for Merchandise
- C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

7002 0860 0007 6286 2237

Domestic Return Receipt

102595-99-M-1789

102

WATER QUALITY  
307-777-7781  
FAX 777-5973



February 1

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

The Department of Environmental Quality is considering legal action and penalties in order to collect delinquent Above/Underground Storage Tank fees.

You are being sent this letter because the annual Storage Tank registration fees for this facility are delinquent.

MARCH 15, 2003

1. You must pay the delinquent fees by [REDACTED], or face a formal enforcement action. As part of such an action, this department intends to propose penalties.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter 19, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).

Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

All costs of remediation will be at your expense.

Participating in the Wyoming UST Program by paying all your fees provides you with two benefits:

February 19, 2003

Page 2

### Corrective Action Account

Cleanup of the site is done with money from the account. A very small cleanup of contaminated soil can cost \$10,000 to \$20,000. Large contamination problems may exceed \$75,000 per site. If the LUST site owner/operator is eligible for the state program, he/she pays none of the cleanup costs.

Remediation is done in order of the department's prioritized ranking system for contaminated sites from the most contaminated area to the least contaminated area.

### Financial Responsibility Account

Contamination from a site could cause third party personal or property damage. For example: The contamination infiltrates a neighbor's well; the neighbor files a court action against the LUST site owner; and the neighbor is awarded \$50,000 damages by the court. If the procedures listed in the statute have been followed, the owner would be responsible for \$30,000 of the judgement, and the state's financial responsibility account would pay the balance up to \$1 million. Legal costs are not covered by the account.

In summary, this facility is not in compliance with the Wyoming Above/Underground Storage Tank Program. The division will give you until November 15, 2003, to remit the amount owed or submit proof of remediation.

Based upon the benefits of the Wyoming UST Program, it would be to your advantage to participate.

If you feel that there are any discrepancies or oversights, or if you have any questions, feel free to call the staff at the Cheyenne office. The AUST staff is Oma Gilbreth at 307-777-7097, Con Bratton at 307-777-7619, or Bob Lucht at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
UIC / AUST Program Principal  
Water Quality Division

cc: Facility file #0-000834

UST-Access '97 report FL008



Jim Geringer, Governor

The State of Wyoming



Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH 307-777-7758 FAX 777-3610	ABANDONED MINES 307-777-8145 FAX 777-6462	AIR QUALITY 307-777-7391 FAX 777-5618	INDUSTRIAL SITING 307-777-7369 FAX 777-6937	LAND QUALITY 307-777-7756 FAX 777-5854	SOLID & HAZ. WASTE 307-777-7752 FAX 777-5973	WATER QUALITY 307-777-7781 FAX 777-5973
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October 30, 2002

**CERTIFIED**

Serrano, Glow E  
P O Box 61  
Tie Siding, WY 82084

RE: Facility #0-000834 Located at P O Box 61, Tie Siding

Dear Glow Serrano:

You are being sent this letter because the annual Contaminated Site Fee for this facility has not been received by this department. Payment of the contaminated site fee is voluntary; however, those who elect not to pay are subject to the following requirements:

1. Within 60 days:
  - A. Submittal of a written "Initial Abatement Measures and Site Check" to this department describing actions that have or will be taken to provide for the cleanup and restoration of the contaminated site as required by W.S. 35-11-1426 and Section 24 of Chapter 17, Water Quality Rules and Regulations. This written description would include the following:
    1. Methods to continue to monitor and mitigate any fire and safety hazards posed by vapors or free product that have migrated from the underground storage tank excavation zone and entered subsurface structures (i.e., sewers or basements);
    2. The remedy of hazards posed by the contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner/operator must comply with the applicable department requirements;
    3. The investigation to determine the possible presence of free product AND begin the free product removal as soon as practical and in accordance with Section 24(d), Chapter 17, Water Quality Rules and Regulations.
  - B. Submittal of an "Initial Site Characterization." Owners/Operators shall assemble information about the site and the nature of any release, including information gathered while confirming the release or completing the initial abatement measures required above. This would include:

October 30, 2002

Page 2

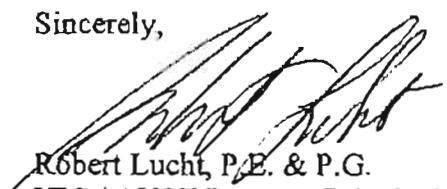
1. Data on the nature and estimated size of any release;
  2. Data on impacted surrounding populations, water quality, use and approximate location of wells affected by the release, subsurface soil conditions, location of subsurface sewers possibly affected by release, and land use of affected areas;
  3. Results of free product investigations required by Section 24(b), Chapter 17, Water Quality Rules and Regulations, to be used by owner/operators to determine whether free product must be recovered under item B above;
  4. Submit the information collected as required by Section 24, Chapter 17, Water Quality Rules and Regulations, to the department in a manner which demonstrates its technical adequacy and applicability.
- C. Submittal of a report detailing the investigation for soil and groundwater cleanup and corrective action as required by Chapter 17, Section 24(e) and Section 24(f), Water Quality Rules and Regulations.
2. Until all fees are current, you are not covered by the Wyoming Underground Storage Tank Program and must show financial responsibility as required by Water Quality Rules and Regulations, Chapter XIX, Section 6. This section requires that each owner of a contaminated site which is not covered by the state's corrective action program show financial responsibility of \$1,000,000.00 (One Million Dollars).
  3. Those not covered are also subject to U.S. Environmental Protection Agency enforcement action for not complying with release cleanup requirements in specified time frames. Details on the cleanup requirements and the time frames are contained in 40 CFR 280.60 through 280.67 (CFR is the Code of Federal Regulations).

**All costs of remediation will be at your expense.**

Next year, this agency will initiate formal enforcement action against owners of contaminated sites who are not covered by the program and who have also not complied with the above requirements.

If you have any questions, feel free to call the office at 307-777-7095.

Sincerely,



Robert Lucht, P.E. & P.G.  
UIC / AUST Program Principal  
Water Quality Division

Enclosure: Delinquent Site Fee Invoice

cc: Facility file #0-000834



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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September 4, 2002

Ms. Glow Serrano  
P.O. Box 61  
Tie Siding, WY 82084

RE: Tie Siding Leaking Above, Underground Storage Tank (LAUST) Remediation Project

Ms. Serrano:

As you're aware, the Wyoming Department of Environmental Quality, Water Quality Division - LAUST Program (WDEQ) has installed 5 new wells and tested all available wells at the Tie Siding General Store (site). We discussed some of the findings of these activities during my visit with you and Gary last week. You had requested more information on the results for your existing drinking water supply well, which we have identified as Tucker #1.

I've attached 3 pages to this letter to help summarize the results for recent and historical testing at Tucker #1. The first page is a map of the site showing the location of three wells installed in 1994 (MW-1 through MW-3), the location of the 5 new wells (MW-11 through MW-15), and the location of the two domestic wells, Tucker #1 and Pickel #2. The second page shows the concentrations of all wells sampled this summer. The third page shows results for samples collected from MW-1 through MW-3 in 1994. Please note that MW-1 cannot be analyzed due to the presence of free product on top of the water table.

In summary, the significant findings of the subject project are as follows:

1. No fuel contaminants were detected in the Tucker #1 well in 1994 or 2002.
2. MW-2 fuel contaminants levels detected in 1994 are significantly lower in 2002.
3. Product thickness in MW-1 has decreased over time (3.2 feet in 1994, 1.1 feet in 2002).
4. MW-10 and MW-15 will be monitored to ensure that fuel contamination from in front of the store does not migrate towards Tucker #1.
5. Additional free product removal activities at the site are scheduled quarterly into 2004.

I hope that this letter provides the information that you requested. Also, I'd like to take this opportunity to remind you that contaminated site fees (\$200.00) are now due for fiscal year 2003 (July 1, 2002 through June 30, 2003). Current payment of contaminated site fees allows WDEQ to continue remediation efforts at the site. I've attached a two-page invoice (one page is for your records) for your convenience.

)  
Ms. Serrano  
September 4, 2002  
Page 2

I appreciate all of your cooperation during our activities this summer. If you have any questions please contact me at 307-777-7073.

Sincerely,



Adrian Ducharme, P.G.  
AUST/LAUST Project Manager  
Water Quality Division

ALD/bb/2-2725.ltr

ATTACHMENTS

Site map and data (3 pages)  
Invoice (2 pages)

cc: ✓Patti Burns, IPS Supervisor/Facility File #0-000834



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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March 21, 2002

Mr. James Windham  
910 Bedford  
Midland, TX 79701

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Windham:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 618.79 acres of land, Geolocator #1372-19-3-00-01300, as shown on the enclosed drawing (abbreviated to '01300'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. James Windham  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0987-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

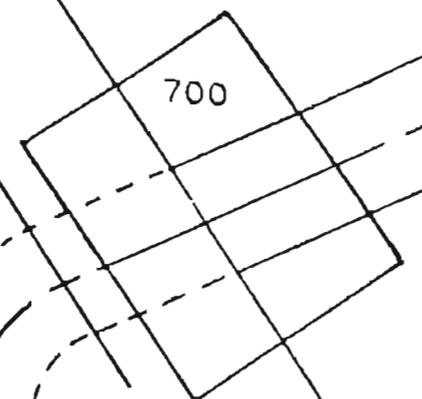
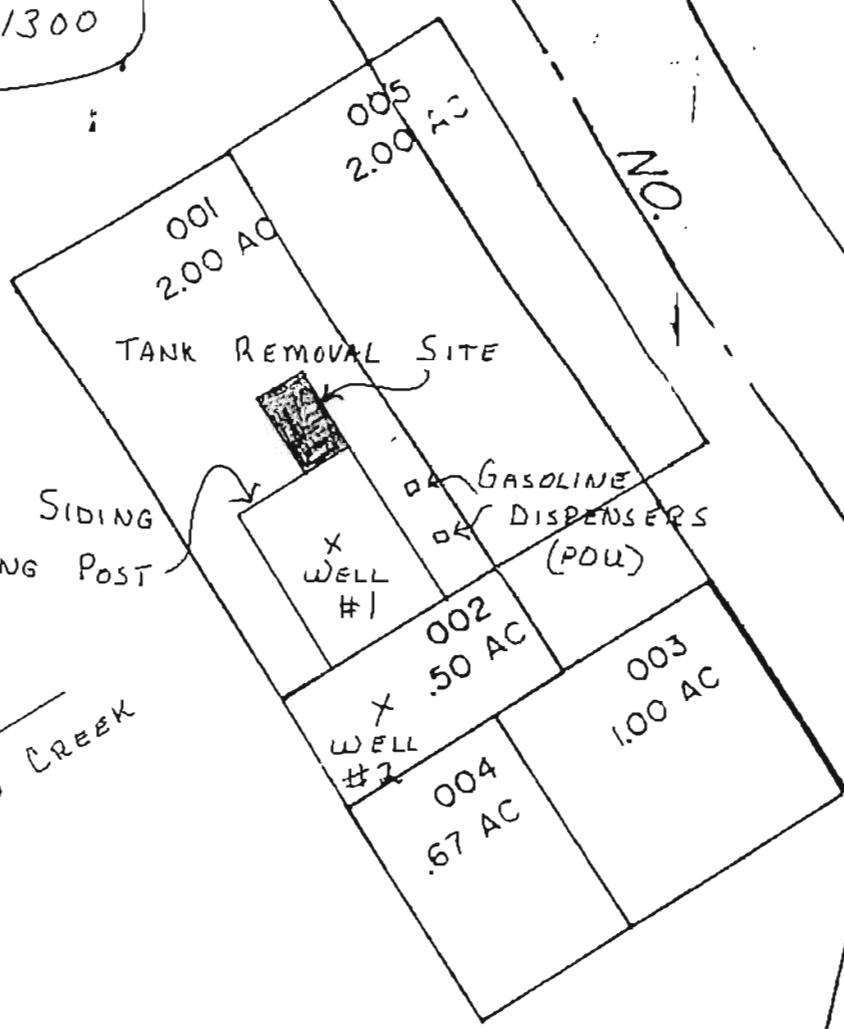
cc: Facility File #00-000834

8/1/66



HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



HIGHWAY 222

TO COLORADO  
BORDER 8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5873	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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March 21, 2002

Ms. Myrtle Gunderson  
General Delivery  
Tie Siding, WY 82084

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Ms. Gunderson:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 2.00 acres of land, Geolocator #1372-19-2-00-00500, as shown on the enclosed drawing (abbreviated to '005'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Ms. Myrtle Gunderson  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0988-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



TO LARAMIE  
17 MILES

HIGHWAY 287

01300

005  
2.00 AC

001  
2.00 AC

TANK REMOVAL SITE



X  
WELL  
#1

GASOLINE  
DISPENSERS  
(POU)

002  
.50 AC

X  
WELL  
#2

003  
1.00 AC

004  
.67 AC

TIE SIDING  
TRADING POST

TO CREEK

700

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
--	---	---	---	--	--	---

March 21, 2002

Mr. J. Kennard Windham  
P.O. Box 9935  
Midland, TX 79708

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Windham:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 0.67 acres of land, Geolocator #1372-19-3-00-00400, as shown on the enclosed drawing (abbreviated to '004'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to received duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. J. Kennard Windham  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0986-ltr

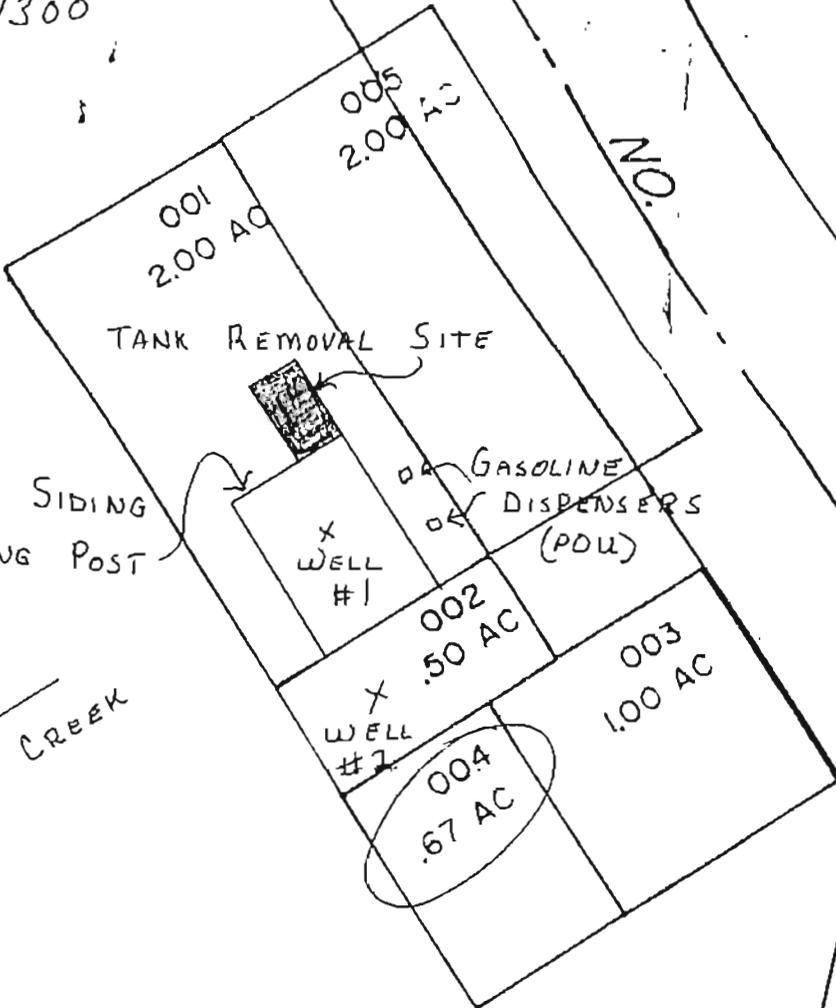
Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



N.O.

700

HIGHWAY 222

TO COLORADO  
8 MI  
BORDER

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-5462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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March 21, 2002

Mr. Billy Pickel  
Box 83  
Tie Siding, WY 82084

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Mr. Pickel:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 1.00 acres of land, Geolocator #1372-19-4-00-00300, as shown on the enclosed drawing (abbreviated to '003'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Mr. Billy Pickel  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0983-ltr

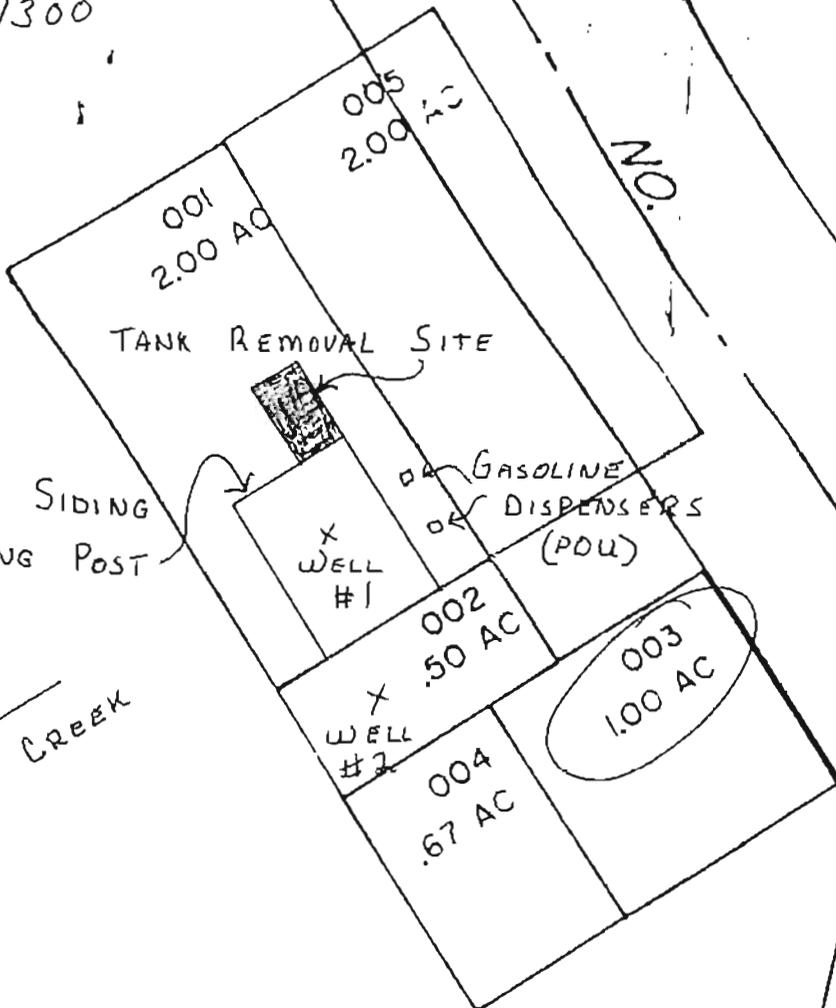
Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



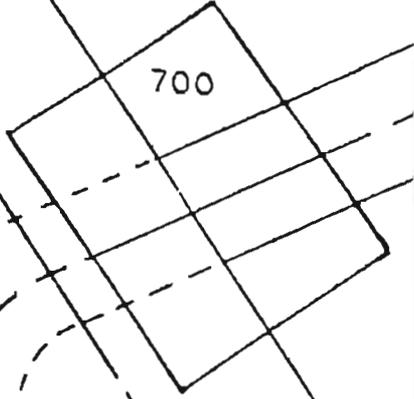
HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



TIE SIDING  
TRADING POST

TO CREEK



700

HIGHWAY 222

TO COLORADO  
BORDER  
8 MI

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING



The State  
of Wyoming



## Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7761 FAX 777-5973
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March 21, 2002

Dr. Bil Tucker  
817 West 27th  
Cheyenne, WY 82001

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Dr. Tucker:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 0.500 acres of land, Geolocator #1372-19-3-00-00200, as shown on the enclosed drawing (abbreviated to '002'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling/analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to received duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Dr. Bil Tucker  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,



Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0985-ltr

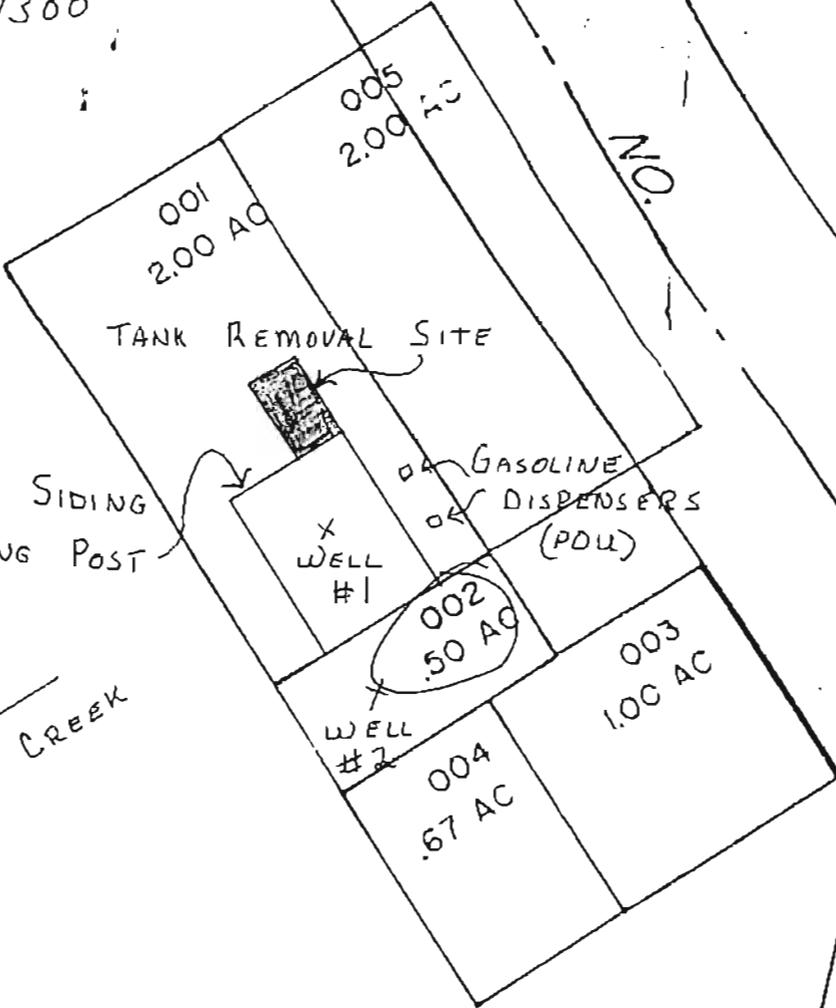
Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



HIGHWAY 287  
TO LARAMIE  
17 MILES

01300



TIE SIDING  
TRADING POST

TO CREEK

700

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

HIGHWAY 222

TO COLORADO  
BORDER 8 MI



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SMOG (307) 777-7369 FAX 777-4937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7761 FAX 777-5972
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March 21, 2002

Ms. Glow Serrano  
1721 U.S. Highway  
Tie Siding, WY 82201

**RE: Wyoming Leaking Above/Underground Storage Tank (LAUST) Program  
Tie Siding LAUST Subsurface Remediation Project**

Dear Ms. Serrano:

The Wyoming Department of Environmental Quality - Water Quality Division, LAUST Program (WDEQ) is initiating a project to investigate a hydrocarbon release from at least one suspected leaking underground storage tank site in the Tie Siding area. Property ownership records at the Albany County Assessor's Office list you as the owner of 2.00 acres of land, Geolocator #1372-19-2-00-00100, as shown on the enclosed drawing (abbreviated to '001'), which may have been impacted by this release.

WDEQ intends to complete a subsurface investigation to delineate hydrocarbon contamination that has been previously identified at the Tie Siding General Store site. Activities associated with this investigation include (1) installing up to twenty soil borings and five monitoring wells; (2) removing free-floating hydrocarbons (if observed) from these five wells on a quarterly basis for up to two years; (3) completing annual sampling analyses for these five wells, as well as for two existing wells (see drawing), for up to two years. WDEQ anticipates starting this investigation on April 8, 2002, weather permitting, and that field activities will take 1 to 2 weeks to complete.

In accordance with Wyoming Statute W.S. 35-11-1422 and Water Quality Division Rules and Regulations Chapter 17, Section 12(a), WDEQ requests your agreement to provide department staff and/or its contractors access to your property to complete the above investigation. An 'Access and Use Easement' has been enclosed with this letter. Please have an authorized person sign the easement and return it to me in the enclosed self-addressed envelope.

Also enclosed please find a 'Duplicate Sample Waiver' form. Please complete, sign, and return the form to my attention if you DO NOT wish to have someone present on site to receive duplicate soil and/or groundwater samples when they are collected. If we do not receive the signed waiver, we will assume that you will have a representative present to take custody of duplicate samples.

Ms. Glow Serrano  
March 21, 2002  
Page 2

Thank you for your time and consideration. If you have any questions, please feel free to call me at (307) 777-7073.

Sincerely,

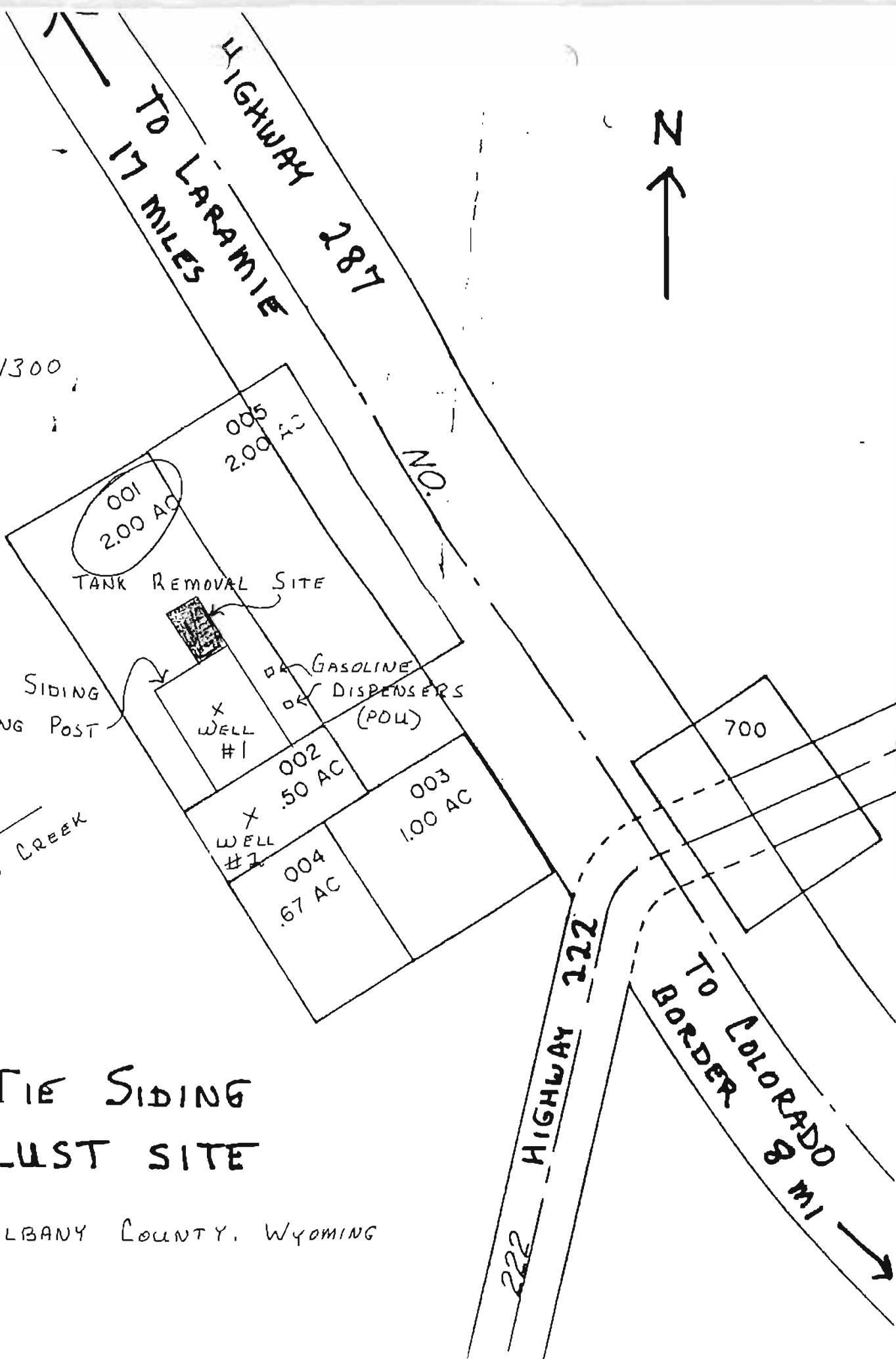


Adrian Ducharme, P.G.  
Southeast District Senior Environmental Analyst  
LAUST Program  
Wyoming Dept. of Environmental Quality, Water Quality Division

AD/pjb  
2-0984-ltr

Enclosures: Property Ownership Drawing  
Access and Use Agreement  
Duplicate Sample Waiver Form  
self-addressed envelope

cc: Facility File #00-000834



01300

001  
2.00 AC

005  
2.00 AC

TANK REMOVAL SITE

X  
WELL #1

GASOLINE  
OR DISPENSERS  
(POU)

002  
.50 AC

X  
WELL #2

003  
1.00 AC

004  
.67 AC

700

# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

HIGHWAY 222

TO COLORADO  
BORDER 8 MI

HIGHWAY 287  
TO LARAMIE  
17 MILES

NO.

TO CREEK

TIE SIDING  
TRADING POST

) )

# MEMO

from the desk of

David "Con" Bratton

11/8/01

Glow Serrano,

Sign and put in the transfer date on the change of ownership form and return it.

Also, here is another invoice for the Contaminated Site Fees that were due July 1, 2001.

I need both of these back ASAP or you could be billed for the cost of cleaning up this site.

If you have any questions call me at 307 777 7619.





The State  
of Wyoming



# Department of Environmental Quality

Jim Gerlinger, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
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September 7, 2001

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US Highway 287  
Tie Siding, WY 82084

**RE: Wyoming Storage Tank Program Requirements; Contaminated Site Fee For Facility #0-000834, Located at Tie Siding**

Dear Ms. Serrano:

As you are aware, the Wyoming Department of Environmental Quality/ Water Quality Division's (WQD) Above and Underground Storage Tank Program (AUST) is initiating a project to investigate and remediate soil and ground water impacts related to releases from at least one suspected leaking underground storage tank site and third party affected properties in the Tie siding area. WQD anticipates that work on this project will commence during the spring of 2002, possibly as early as April 1, 2002.

Wyoming Statute 35-11-1424 (e) requires that the owner of a contaminated site pay an annual fee of \$200.00 for a period of ten years, at which time the fee lapses until the beginning of corrective action. The fiscal year (July 1 through June 30) in which corrective action commences triggers the re-initiation of the annual fee, which continues until corrective action is finished. The initial ten year payment requirement was satisfied with the fiscal year 2000 payment.

Because corrective action work will begin before the end of this fiscal year (FY 2002), the annual fee is now due and payable. Attached please find an invoice for the \$200.00 fee. To remain eligible for the Corrective Action Program, the annual fee must be paid through the end of corrective action work. Please include your facility ID number on your check.

Please call me at 307-777-5877 should you have any questions.

Sincerely,

Paul Hildenbrand, P.G.  
Southeast District Supervisor  
AUST/LAUST Program  
Water Quality Division

PRH/mad/12328-ltr

Attachment: FY 2002 Contaminated Site Fee Invoice

cc: Patti Burns, IPS Supervisor  
Facility File #0-000834



**JIM GERINGER**  
GOVERNOR

## Department of Environmental Quality

Herschler Building ● 122 West 25th Street ● Cheyenne, Wyoming 82002

ADMINISTRATION (307) 777-7758 FAX 777-7682	ABANDONED MINES (307) 777-8145 FAX 634-0799	AIR QUALITY (307) 777-7391 FAX 777-7682	INDUSTRIAL SITING (307) 777-7368 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 634-0799	SOLID & HAZARDOUS WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-6973
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July 25, 2001

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US HWY 287  
Tie Siding, WY 82084

Re: Tie Siding area Leaking Underground Storage Tank (LUST) Project  
Pre-bid Contractor's Tour of Impacted Sites

Dear Ms. Serrano:

As you have been made aware through past personal visits, phone calls, and written correspondence, the Wyoming Department of Environmental Quality (WDEQ) Aboveground and Underground Storage Tank (AUST) Program will be initiating a project to investigate soil and ground water impacts related to releases from approximately one (1) suspected leaking underground storage tank (LUST) site and third-party affected properties in the Tie Siding area.

As the first step toward actually initiating the subsurface investigation work the WDEQ will conduct a pre-bid tour for contractors that will be bidding on the work. All interested parties will meet at 10:00 in the morning **Friday, August 10, 2001** in the parking lot of the Tie Siding General Store at 1741 US Hwy. 287, Tie Siding Wyoming. A discussion of the scope of the project will start the meeting, any questions or concerns the bidders may have will be answered, then the group will be taken to some of the various areas so that they can assess the working conditions for themselves prior to submitting work plans and bids. The effort will be made to visit all of the critical areas. Please do not be alarmed if a large group of people show up on your property that day! We will be careful not to disrupt your business any more than is absolutely necessary.

If you have questions concerning the Tie Siding Project please contact me at the Cheyenne WDEQ office, at (307) 777-7073.

Sincerely,

Lee Dlug  
Sr. Environmental Analyst  
LAUST/AUST Program  
Water Quality Division

LD/mad/11882-ltr

cc: File 0-000834

Paul Hildenbrand, S.E. District Supervisor, LAUST/AUST Program, Water Quality Division.

# MEMO

from the desk of

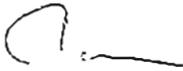
David "Con" Bratton

4/19/01

Gary,

Here is the change of ownership form, have Glow sign the left side under the New Owner information. Check the information, change if necessary, and return ATTN Con Bratton.

Thanx,



David "Con" Bratton

Glow now is the owner 4/19/01



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

<b>ADMIN/OUTREACH</b> (307) 777-7758 FAX 777-3610	<b>ABANDONED MINES</b> (307) 777-6145 FAX 777-6462	<b>AIR QUALITY</b> (307) 777-7391 FAX 777-5616	<b>INDUSTRIAL SITING</b> (307) 777-7369 FAX 777-6937	<b>LAND QUALITY</b> (307) 777-7756 FAX 777-5864	<b>SOLID &amp; HAZ. WASTE</b> (307) 777-7752 FAX 777-5973	<b>WATER QUALITY</b> (307) 777-7781 FAX 777-5973
---	--	--	--	---	---	--

October 3, 2000

Ms. Glow E. Serrano  
Tie Siding General Store  
1741 US Hwy 287  
Tie Siding, WY 82084

**RE: Well Water Sampling; Facility 0-000834, Located at 1741 US Hwy. 287, Tie Siding, Wyoming**

Dear Ms. Serrano:

The Wyoming Department of Environmental Quality, Water Quality Division (WDEQ/WQD), has completed it's review of the analysis results from water samples collected from the water supply at the former underground storage tank (UST) facility referenced above. You may wish to keep this letter and enclosures in your files as record of the well history for this location.

The samples were collected to confirm that well waters contain fuel concentrations that are below the regulatory limits. The samples were submitted to an approved laboratory for testing of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE, and for total lead, cadmium, and chrome. All laboratory test results indicate that there is no contamination within the well waters. Photocopies of the laboratory reports are enclosed.

If you have any comments or questions, please feel free to call me at (307) 777-7073.

Sincerely,

Lee Dlug  
Sr. Environmental Analyst  
LAUST Program  
Water Quality Division

LRD/bb/02522.ltr

Enclosure: Laboratory results

cc: file 0-000834  
Clay Rowley

1/30/01

Received a call from Bill Tucker Tie Siding Facility 0000834 Requesting the status of remediation for this site. Status Quo will start late this spring. Call when more definite word is out. June 4, 2001

Con



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
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August 14, 2000

Re: Contaminated site fees for facility 834

Mr. Bill Tucker:

The enclosed invoice for \$200.00 is for the tenth annual contaminated site fee that was due July 1, 1999. This is for the contamination found when the under ground storage tanks were removed from the Tie Siding General Store located in Tie Siding, Wyoming. The fees will stop after this payment. When active remediation begins they will resume at the rate of \$200.00 annually and continue until the remediation is complete.

Payment of the fee by Mr. Bill Tucker was stipulated in the contract for sale of this property. This letter is to request that said payment be forth coming.

Failure to pay this fee will remove you from the state remediation program and will make you responsible for the complete cost of remediation for this site.

If you have any questions feel free to contact me at 307-777-7619.

Sincerely,

David "Con" Bratton  
UST Program Specialist  
Water Quality Division

DCB/mad/02082-ltr

Attachment: UST Registration Invoice

cc: Facility File 834



The State  
of Wyoming



## Department of Environmental Quality

Jim Geringer, Governor

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

ADMIN/OUTREACH (307) 777-7758 FAX 777-3810	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-6937	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
--	---	---	---	--	--	---

August 14, 2000

Ms. Debbie Grooman  
First National Bank of Wyoming  
2020 Grand Avenue  
Laramie, WY 82070

Dear Debbie:

Thank you so much for the help you gave me on the phone today. I have enclosed the letter we discussed and will appreciate your assistance in seeing that it gets to the appropriate party.

If you have any questions or problems feel free to contact me at 307-777-7619.

Sincerely,

David "Con" Bratton  
UST Program Specialist  
Water Quality Division

DCB/mad/02082-ltr

cc: Facility File 834

**From:** David Con Bratton  
**Date:** 8/14/00  
**Subject:** Site fees for Fac 834

9:30AM Phoned Debbie Grooman First National Bank of WY 307 745 7351 about an address for Bil Tucker.  
10:30AM Received a call back from Debbie Said she couldn't release that info. Agreed to forward a letter if I sent it over. Done. <sup>2058</sup>  
Called Gary Waterhouse 307 760 ~~2985~~ and passed on the info from the bank. Reminded him that Glow is responsible if this didn't work.

Paul, office phone 721 8139

;

**Date:** 8/12/00  
**Subject:** Visit to Facility 834

Contacted Glo Serrano reference payment of site fees for Tie Siding General store. Also spoke with Mr Gary Waterhouse 307 760 2058 same subject. Found that Bil Tucker the previous owner is responsible for payment in the sales contract now lives in Indonesia. Obtained the Debbie Brooman from First National Bank of Wyoming 2020 Grand Ave Laramie 82070 as the holder of escrow. Will write to Bil through FNB.

Con Bratton

Phoral  
745 7351

First National Bank of Wyo  
745 7351

UNI Wyo FCU  
766 4800

200 Due -

- Glo F<sup>2</sup> Serrano -
- Gary Waterhouse - 760 2058
- Bill Tucker -

- Debbie

@ First National Bank of Wyo  
Handles MIG 2020 GRANT

82070

Start in 2-5 yds

LeRoy

Possible core out and do some testing  
Fractured rock hard to clean

- Debbie GROOMAN
- HAS CONTACT WITH SON

**Date:** 4/24/00  
**Subject:** TIE SIDING GENERAL STORE 0-000834

Called Bil Tucker several times at the different numbers in the file. Could not get ahold of him. The Albany County Assessor's Office said that the owner of the property is Glow E. Serrano, P.O. Box 61, Tie Siding, WY 82084. Sent a change of ownership form and bill to her. Clay said there is some sort of agreement between Ms. Serrano and Bil Tucker that Bil will remain responsible for the fee. I said that is between Ms. Serrano and Mr. Tucker, but if Mr. Tucker does not pay then Ms. Serrano is responsible under the wording of the law. It is not our responsibility to try to enforce agreements between third parties.



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7381

Land Quality Division  
(307) 777-7756  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-6973

July 23, 1993

Mr. J. Kennard Windham  
c/o Mr. James T. Windham  
910 Bedford  
Midland, TX 79701

RE: Subsurface Investigation: Tie Siding, #0247-Z  
Facility ID # ~~860~~ 834

Dear Mr. Windham:

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

Enclosed is an easement form which, when signed by you, will allow the DEQ/WQD to drill bore holes and install monitoring wells on your property. The DEQ/WQD will conduct all drilling in a manner so as to minimize any disruptions to your property or business. The groundwater samples taken from groundwater monitoring wells will be analyzed in a laboratory to determine the types and concentrations (amount of chemical contaminants) present. The information gathered will be most beneficial in designing and developing a system to remove these contaminants from the soil and groundwater.

*1741*  
*1743*  
*HIGHWAY 287*  
*HIGHWAY 287*  
*PARCEL #*  
*1372193000*  
*1372192000*

Mr. J. Kennard Windham  
July 23, 1993  
Page 2

Pursuant to Wyoming's corrective action program, "Water Pollution from underground storage tanks (USTs) Corrective Action of 1990", we are required to provide you, should you so desire, a duplicate sample of the groundwater we will sample from water wells on your property.

You will be provided a copy of the laboratory result from the sample we will be taking whether you sign a duplicate sample waiver or not. However, if you choose to request a duplicate sample analysis, you will be responsible for any costs associated with the necessary lab work. If you do not wish to have a duplicate sample taken, please read and sign the enclosed "Waiver of Duplicate Sample" form, and return it to me at the DEQ/WQD, Cheyenne.

If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 33284.LTR

Enclosures: Access and Use Easement, and Waiver of Duplicate Samples forms

xc: Clay Rowley, SE District UST Supervisor

## ACCESS AND USE EASEMENT

For and in consideration of the mutual benefits to be derived by the parties to this access and use easement, and for other valuable considerations, James Kennard Windham, hereinafter referred to as the Grantor, hereby grants to the Department of Environmental Quality, hereinafter referred to as the Grantee, the right to conduct, operate and maintain a soil and groundwater contamination remediation recovery and stabilization system on the following described lands located in the State of Wyoming, to wit:

A tract of land in Section 19, Township 13 North, Range 72 West of the 6th P.M., Albany County, Wyoming.

The access and use easement hereby granted being more particularly described as follows:

Beginning at a point whence the Northwest corner of Section 19, Township 13 North, Range 72 West bears North  $41^{\circ}22'$  West 3364 feet; thence South  $36^{\circ}22'$  East 521.78 feet along the West boundary line of the right of way of State Highway No. 287 to a point at the Northeast corner of the one acre tract; thence South  $36^{\circ}22'$  East 208.71 feet; thence South  $53^{\circ}38'$  West 208.71 feet; thence North  $36^{\circ}22'$  West 208.71 feet; thence North  $53^{\circ}38'$  East 208.71 feet to the Northeast corner of the one acre tract.

### EXCEPTING THEREFROM

Beginning at a point on the Westerly right of way line of U.S. 287, which bears South  $89^{\circ}08'07''$  East, (previously shown as South  $89^{\circ}11'00''$  East) 540.68 feet and south  $36^{\circ}26'00''$  East) 3551.95 feet from the Northwest corner (a well set granite stone) of said section 19; thence south  $36^{\circ}26'00''$  East, 169.29 feet along said right of way to the beginning of a  $1^{\circ}54'59''$  circular curve concave Northeasterly having a radius of 2989.79 feet and a delta of  $32^{\circ}17'$ ; thence along said curve, a distance of 43.61 feet, the chord of which bears South  $36^{\circ}51'05''$  East, 43.61 feet; thence South  $54^{\circ}40'01''$  West, 211.12 feet; thence North  $35^{\circ}35'4''$  West, 205.57 feet; thence North  $52^{\circ}39'26''$  East, 207.75 feet to the point of beginning.

**PHASE I** - Installation of borings and/or monitoring wells at the locations shown on Figure 2 attached to this agreement. Exact locations of the borings and wells will be agreed upon by an authorized representative of the Grantee and the Grantor.

**PHASE II** - Installation and operations of a petroleum hydrocarbon contamination remediation system. Exact location will be agreed upon by an authorized representative of the Grantee and the Grantor.

Grantor grants the right of ingress and egress to and from the said land for any and all purposes necessary and incident to the exercise by the Grantee, and its employees or independent contractors, of the rights granted by this conveyance.

Grantor will not attempt to interfere with the Grantee in the conduct of its operations for any purpose whatsoever; that exclusive use is hereby granted to the Grantee.

This easement is granted only upon the express condition that the Grantee shall have the responsibility of properly plugging and capping any drilling holes it has drilled as part of this easement when it has finished collecting any and all data from said drilling holes, removal of all above ground structures and equipment when soil and groundwater contamination remediation is complete, and repair all damage to sidewalks and paved areas caused by Grantee to Grantor's satisfaction.

The Grantor does not, by this easement, require that the Grantee waive its sovereign immunity by entering into this easement. The Grantee fully retains all immunities and defenses provided by law with regard to any action based on this easement.

\_\_\_\_\_  
Grantor

\_\_\_\_\_  
Date

\_\_\_\_\_  
Senior Analyst  
UST/LUST Program  
Water Quality Division  
Department of Environmental Quality

/nc 33284.LTR



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7391

Land Quality Division  
(307) 777-7756

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781

## WAIVER OF DUPLICATE SAMPLE

I/we [own/operate] the following property, located at: (facility name, street address, city/town, facility ID number):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I/we understand that if samples are taken by an authorized representative of the Wyoming Department of Environmental Quality on this property, I/we have a right to obtain a duplicate sample from such representative at the time of the taking of the sample.

I/we understand that I/we may have such a duplicate sample separately tested, at my own expense, in order to confirm any testing done by the Wyoming Department of Environmental Quality.

Being aware of my right to be provided a duplicate sample, however, I/we hereby waive any and all rights to have such duplicate sample provided to me by the Wyoming Department of Environmental Quality.

Signature \_\_\_\_\_

Print Signature \_\_\_\_\_

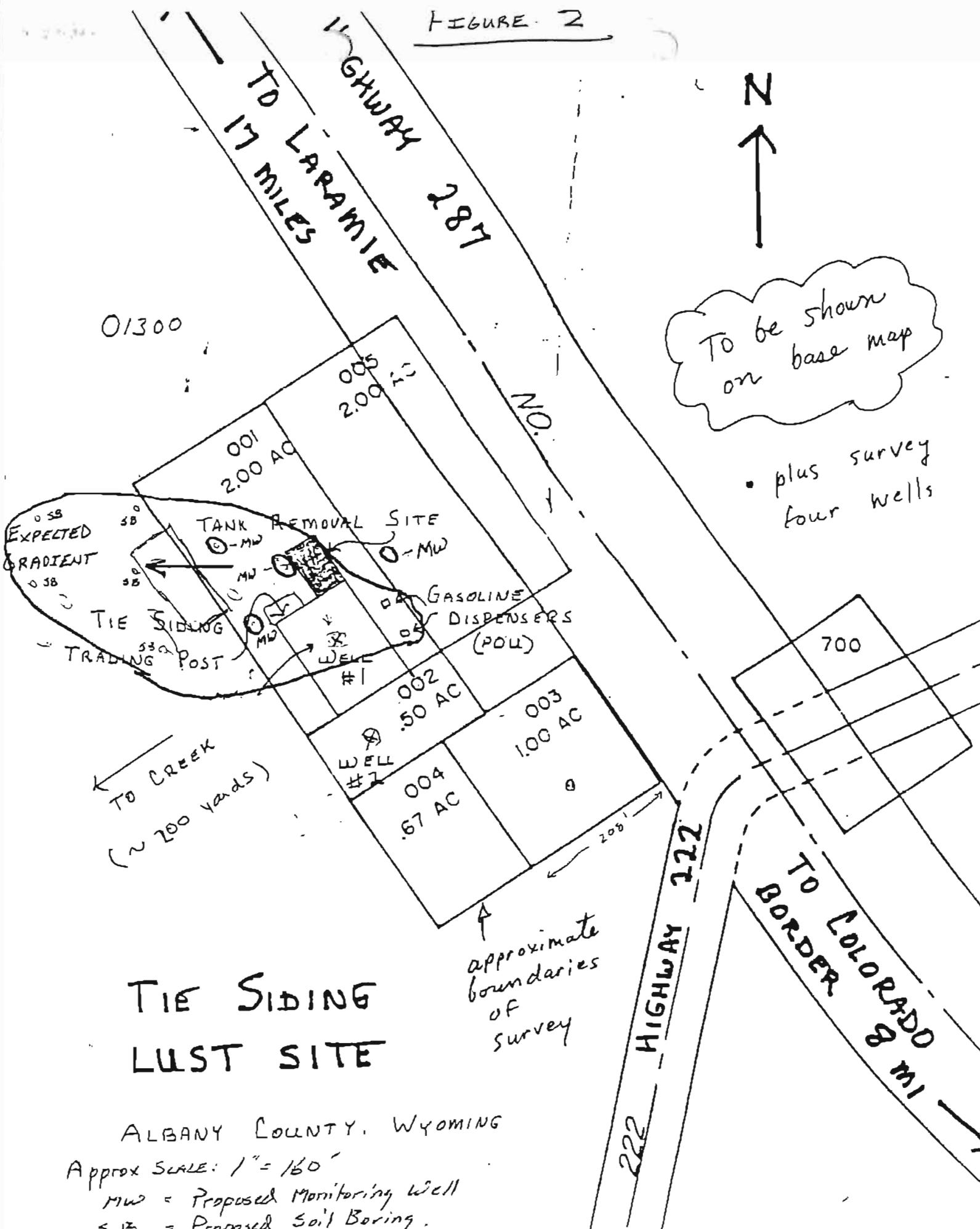
Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Date \_\_\_\_\_

FIGURE 2



# TIE SIDING LUST SITE

ALBANY COUNTY, WYOMING

Approx SCALE: 1" = 160'

- MW = Proposed Monitoring Well
- SB = Proposed Soil Boring.



THE STATE OF WYOMING



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(307) 777-7937

Air Quality Division  
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Land Quality Division  
(307) 777-7766  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-5973

July 20, 1993

Mr. James T. Windham  
910 Bedford  
Midland, TX 79701

RE: Subsurface Investigation: Tie Siding, #0247-Z  
Facility ID # 863

Dear Mr. Windham,

*860 834*

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

Enclosed is an easement form which, when signed by you, will allow the DEQ/WQD to drill bore holes and install monitoring wells on your property. The DEQ/WQD will conduct all drilling in a manner so as to minimize any disruptions to your property or business. The groundwater samples taken from groundwater monitoring wells will be analyzed in a laboratory to determine the types and concentrations (amount of chemical contaminants) present. The information gathered will be most beneficial in designing and developing a system to remove these contaminants from the soil and groundwater.

Pursuant to Wyoming's corrective action program, "Water Pollution from underground storage tanks (USTs) Corrective Action of 1990", we are required to provide you, should you so desire, a duplicate sample of the groundwater we will sample from water wells on your property.

July 20, 1993  
Page 2

You will be provided a copy of the laboratory result from the sample we will be taking whether you sign a duplicate sample waiver or not. However, if you choose to request a duplicate sample analysis, you will be responsible for any costs associated with the necessary lab work. If you do not wish to have a duplicate sample taken, please read and sign the enclosed "Waiver of duplicate Sample" form, and return it to me at the DEQ/WQD, Cheyenne.

If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/mad 33352.LTR

✓ cc: Clay Rowley, SE District UST Supervisor



THE STATE OF WYOMING



MIKE SULLIVAN  
GOVERNOR

# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration (307) 777-7837	Air Quality Division (307) 777-7391	Land Quality Division (307) 777-7766 FAX (307) 634-0799	Solid Waste Management Program (307) 777-7752	Water Quality Division (307) 777-7781 FAX (307) 777-6973
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July 15, 1993

Mr. J. Kennard Windham  
P.O. Box 9935  
Midland, TX 79708

*wrong address*

RE: Subsurface Investigation: Tie Siding, #0247-Z  
 Facility ID # ~~863~~ *860 834*

Dear Mr. Windham:

Throughout the next few months, the Wyoming Department of Environmental Quality, Water Quality Division (DEQ/WQD) will be conducting an investigation into subsurface hydrocarbon contamination at several sites located in Tie Siding, Wyoming. The investigation will involve the installation and sampling of groundwater monitor wells and soil borings. Since your property located at Tie Siding, Wyoming has been identified as being possibly contaminated with petroleum hydrocarbons, wells and/or soil borings may be needed on your property to fully characterize the extent of contamination.

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Mr. J. Kennard Windham  
July 15, 1993  
Page 2

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If you have any questions, please contact me at (307) 777-7073.

Sincerely,



Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 33284.LTR

Enclosures: Access and Use Easement, and Waiver of Duplicate Samples forms

xc: Clay Rowley, SE District UST Supervisor



THE STATE OF WYOMING

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# Department of Environmental Quality

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Administration  
(307) 777-7937

Air Quality Division  
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Land Quality Division  
(307) 777-7756  
FAX (307) 834-0789

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-5973

June 11, 1993

Mr. Warren T. Maierhofer  
Applied EcoSystems  
Suite 101-1415 Wewatta Street  
Denver, CO 80202

RE: Tie Siding Lust Subsurface Investigation, Wyoming Bid No. 0247-Z.

Dear Mr. Maierhofer:

This letter shall serve as Notice to Proceed with work on the above referenced project. In accordance with the "Schedule for Completion of Work", please contact me to schedule the Site Evaluation Planning meeting at the DEQ office in Cheyenne to take place within 20 days of receipt of this Notice to Proceed.

Please contact me if you have any questions regarding this matter.

Sincerely,

Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

RP/nc 32834.LTR

xc: Clay Rowley, SE District UST Supervisor  
E.J. Fanning, DEQ/WQD, Cheyenne  
David Welshens, DAI, Cheyenne  
Notification File #834  
File, Tie Siding SSI  
Shawn Sullivan, LUST Program Principle



MIKE SULLIVAN  
GOVERNOR

# Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration (307) 777-7937	Air Quality Division (307) 777-7391	Land Quality Division (307) 777-7766 FAX (307) 834-0799	Solid Waste Management Program (307) 777-7752	Water Quality Division (307) 777-7781 FAX (307) 777-5973
----------------------------------	--	---	--	--

March 5, 1993

Ms. Glow Serrano  
Tie Siding General Store  
Tie Siding, WY 82084

RE: Subsurface Investigation Site Visit, Tie Siding General Store,  
Tie Siding, Wyoming. UST Facility ID #834.

Dear Ms. Serrano,

The contracting procedure for the subsurface investigation has commenced for the Tie Siding General Store leaking underground storage tank (LUST) site. This procedure involves, among other things, an on-site visit by potential contractors of the project. This visit, involving visual observation, is done to familiarize the potential contractors with the site conditions. This letter is to inform you that the site visit is scheduled for 10:00 am, April 1, 1993, at the Tie Siding General Store.

If this presents any problems, or if you have any questions, please call me immediately at (307) 777-7073.

Sincerely,

Roland Peterson  
Senior Environmental Analyst  
Water Quality Division

xc: Clay Rowley, SE District UST Supervisor  
E.J. Fanning, LUST Remediation Senior Environmental Analyst  
Notification File ✓

RAP:jmm 31000.ltr

MEMORANDUM

FROM: ED MOCK, LABORATORY SUPERVISOR *aw*  
TO: ROLAND PETERSON  
DATE: 20 JANUARY 1993  
SUBJECT: SAMPLE RESULTS

1. The following are the results that you requested:

UST#	SITE	DATE	B	E	T	X	TPH	TPHC
3891	MOUNTAIN CEMENT	6/10/91	2833	398	5274	5293	8	
3891	MOUNTAIN CEMENT	6/10/91	268	147	1074	1807	12	
<u>1893</u>	LARMAIE HEATING	10/25/88	1200	458	2264	2204		2748
<del>834-843</del>	TIE SIDING GEN ST	6/27/90	108	27.4	<0.5	424		

NOTES: BETX RESULTS IN UG/L, TPH AND TPHC IN MG/L. TPHC= TOTAL PURGE AND TRAP HYDROCARBONS.



THE STATE OF WYOMING

MIKE SULLIVAN  
GOVERNOR



## Department of Environmental Quality

Herschler Building • 122 West 25th Street • Cheyenne, Wyoming 82002

Administration  
(307) 777-7937

Air Quality Division  
(307) 777-7391

Land Quality Division  
(307) 777-7756  
FAX (307) 634-0799

Solid Waste Management Program  
(307) 777-7752

Water Quality Division  
(307) 777-7781  
FAX (307) 777-5973

June 3, 1991

Owner

Location

TIE SIDING GENERAL STORE INC  
P O BOX 1975  
TIE SIDING, WY 82084

TIE SIDING GENERAL STORE INC  
P O BOX 1975  
TIE SIDING, WY 82084

RE: LUST Annual Contaminated Site Fee for Facility ID 0000834

Dear Sir:

The purpose of this letter is to request payment of an annual \$200 per site fee associated with a contaminated site caused by an UST registered in your name with this department. The Water Pollution from Underground Storage Tanks Act, W.S. 35-11-1424, created a corrective action account which provides for financial assurance coverage required by federal law and is to be used by the department to take corrective actions in response to releases from UST facilities.

The department has established a priority list of sites contaminated by USTs, and your site is included on this list for future cleanup at state expense. The \$200 annual site fee payment is due to the department on or before July 1 of each year until such time that site has been fully remediated. Sites will be remediated according to their position on the priority listing which primarily considers potential toxicological impact to nearby occupied structures or public utilities and potential contamination of groundwaters of the state. If your site has been determined by the state as being contaminated and you also have an UST system which is currently in use at the same location and you are paying your annual \$200 per tank registration fee, you do not have to pay the contaminated site fee.

In Summary:

1. The 1991 site fee of \$200 per site (check or money order payable to the Wyoming Department of Environmental Quality, Water Quality Division) is due to the Water Quality Division on July 1, 1991, and, on or before July 1 for each following year, until the site has been successfully remediated by the state. Please return a copy of the site fee invoice with your payment. Payment will not be accepted without the invoice and check or money order.

2. If there is new information which would change the status or affect information contained on the UST Registration/Notification Form previously submitted to the department, please provide the updated information on a new form which may be obtained by telephoning 307-777-7783.
3. If you have already been notified of the requirement to pay the "1990" site fee and have not paid the fee, please call 307-777-7783 at once.
4. If you have an existing UST system for which you are currently paying annual tank fees on the same site, only pay the tank registration fee.
5. If, after reading this letter, you have further questions, please contact the department by telephoning 307-777-7783.

Sincerely,



Leroy C. Feusner, P.E., DEE  
UST Program Supervisor  
Water Quality Division

LCF/CWP/pjb

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**APPENDIX Q**  
**VIEWSHED ANALYSIS**

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# Memorandum

463 New Karner Road  
Albany, NY 12205

ICarballo@awstruewind.com  
Voice: 512-535-2322  
Fax: 518-213-0045

---

**TO:** Sara Tyler, Shell Wind Energy  
**FROM:** Vince Green, Modeling Specialist and Ignacio Carballo, Project Manager  
**DATE:** October 23, 2009  
**RE:** **Hermosa Viewshed Analysis**

## **Summary**

AWS Truewind, LLC was requested by Shell to complete a viewshed analysis on a proposed turbine layout with a hub height of 80m and a rotor diameter of 101m. This analysis was run for a 10 mile buffer of the turbine layout and five key observation points (KOP) identified by Shell. Included in this memo are a map of the viewshed results for the entire area of interest, a map for each KOP, a table identifying the number of turbines visible at each KOP, and a brief description of methodology.

## **Background**

As growth in wind energy development continues it has become increasingly important to assess the impacts of these developments on surrounding communities. Among the most significant of impacts may be a farm's visibility from any given point on the landscape. One method of quantifying visual impact is through viewshed analysis.

Viewshed analysis is a visual impact assessment tool performed in a Geographic Information System (GIS). It can be used to identify visibility between two features on the landscape or identifying exposure of one feature across the landscape. This analysis utilizes a digital elevation model (DEM) combined with a feature layer of observation points. Several variables may be applied to the calculation to control for the characteristics of the features in question. Figure 1 below illustrates each of these variables. Two offsets may be used to define the height of the features in the viewshed. Offset A (OF1) represents the height of the observer while Offset B (OF2) represents the height of the feature considered for visibility. The user can control both, horizontal and vertical scan with AZ1-2, and V1-2 respectively, while also defining the search distance with R1-2.

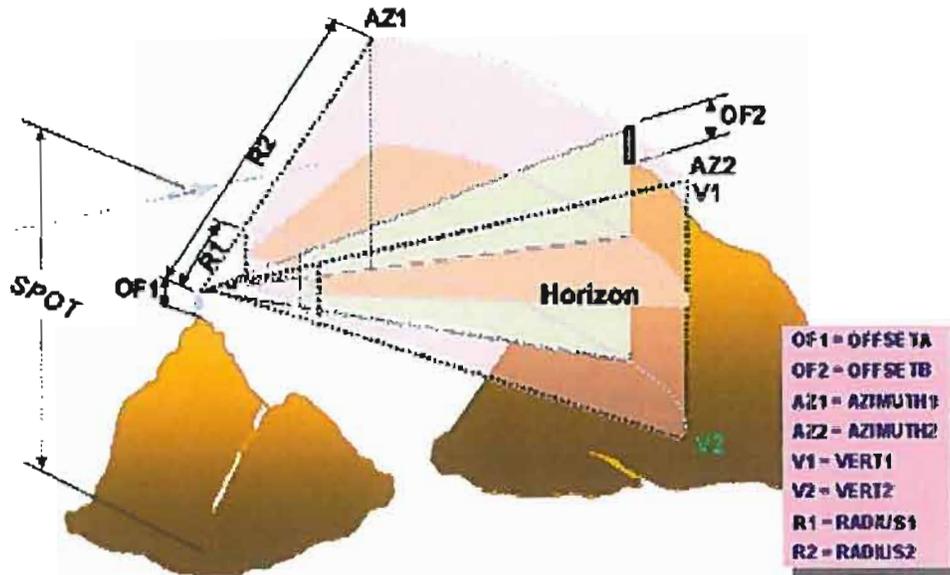


Figure 1. Source: ESRI, ArcGIS Help Files, "Performing a viewshed analysis", Version 9.3.1, 2009

When the appropriate parameters have been defined the model computes the visibility of the observation points for each pixel in the raster. It is important to note that this operation does not consider the obstruction of visibility due to vegetation. In order to evaluate the influence of vegetation the elevation model must be manipulated to account for the increased height of the vegetation. Vegetation was not considered in this analysis.

### Methodology and Results

This viewshed analysis was run using the Spatial Analyst extension in ArcGIS 9.3.1. The scenario assumed a non-vegetated condition with a turbine structure height of 130.5m and an observer eye height of 1.5m. The turbine structure height of 130.5m assumes a hub height of 80m and a rotor radius of 50.5m (101m rotor diameter). Elevation data was provided by Shell at a resolution of 5m for the area immediately surrounding the proposed turbines, which was merged with 10m USGS National Elevation Data (NED) data. The 10m resolution data was resampled to 5m in order to retain the precision of the higher resolution data near the turbines. The following table lists the number of proposed turbines that would be visible from each KOP, assuming a non-vegetated landscape.

<b>Key Observation Point (KOP)</b>	<b>ID</b>	<b># of Turbines Visible</b>
<b>20-acre Ranchettes</b>	<b>1</b>	<b>219</b>
<b>Priority Residential Growth Area</b>	<b>2</b>	<b>200</b>
<b>Ames Monument</b>	<b>3</b>	<b>164</b>
<b>Fish Creek Ranch</b>	<b>4</b>	<b>99</b>
<b>Virginia Dale</b>	<b>5</b>	<b>48</b>

Table 1. Key Observation Points and number of turbines visible.

A map showing the viewshed of the proposed turbine layout over the entire study area is shown in Figure 2. Maps showing each of the KOPs are provided in Figures 3-7.

The results of the viewshed analysis are a modeled simulation and assess a worst-case scenario without vegetative cover. This analysis does not account for obstructions due to vegetation or man-made structures. It is important to note that the above values in Table 1 represent the visibility at the center point of each KOP, assuming a generalized elevation dataset. The number of turbines visible at each point may vary based on local terrain character not captured by the elevation dataset, the presence of intervening vegetation, and atmospheric conditions that impact visibility distance.

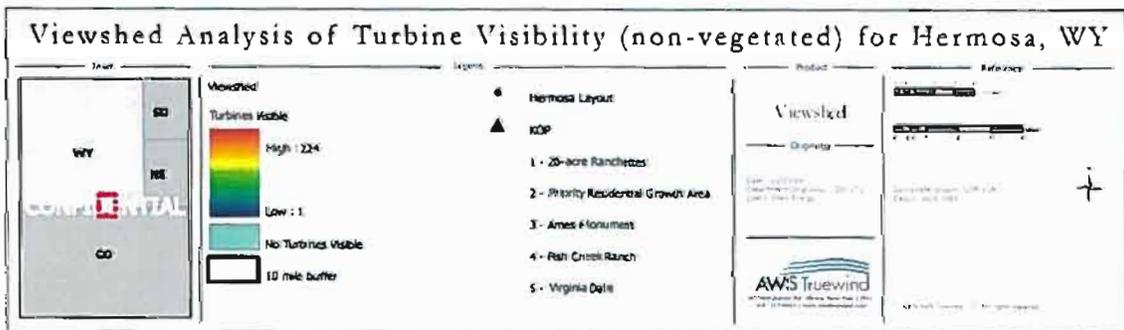
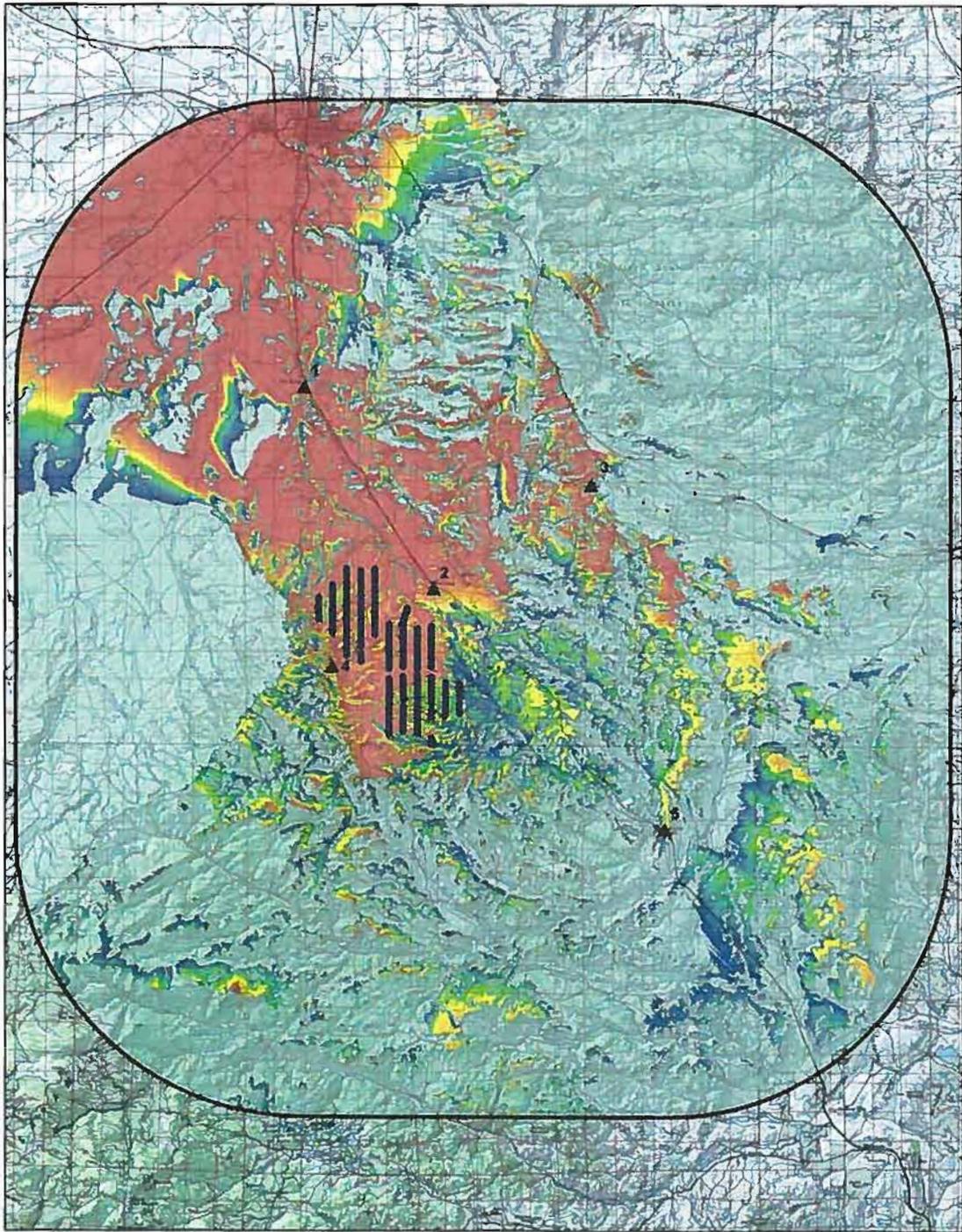


Figure 2. Viewshed of Hermosa Turbine Layout

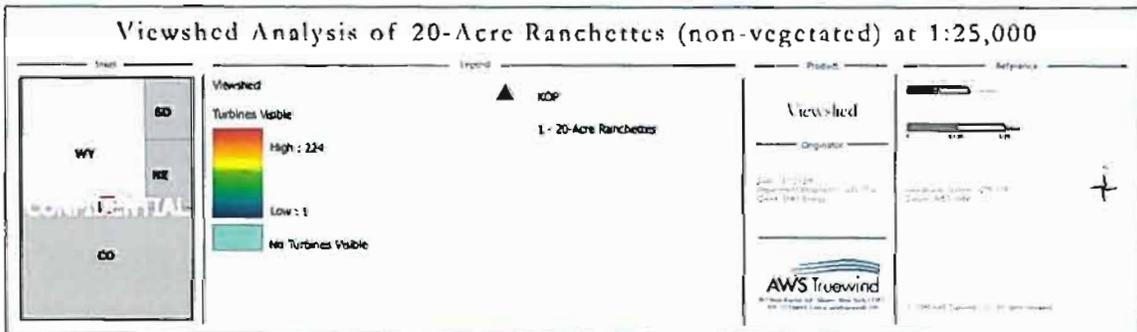
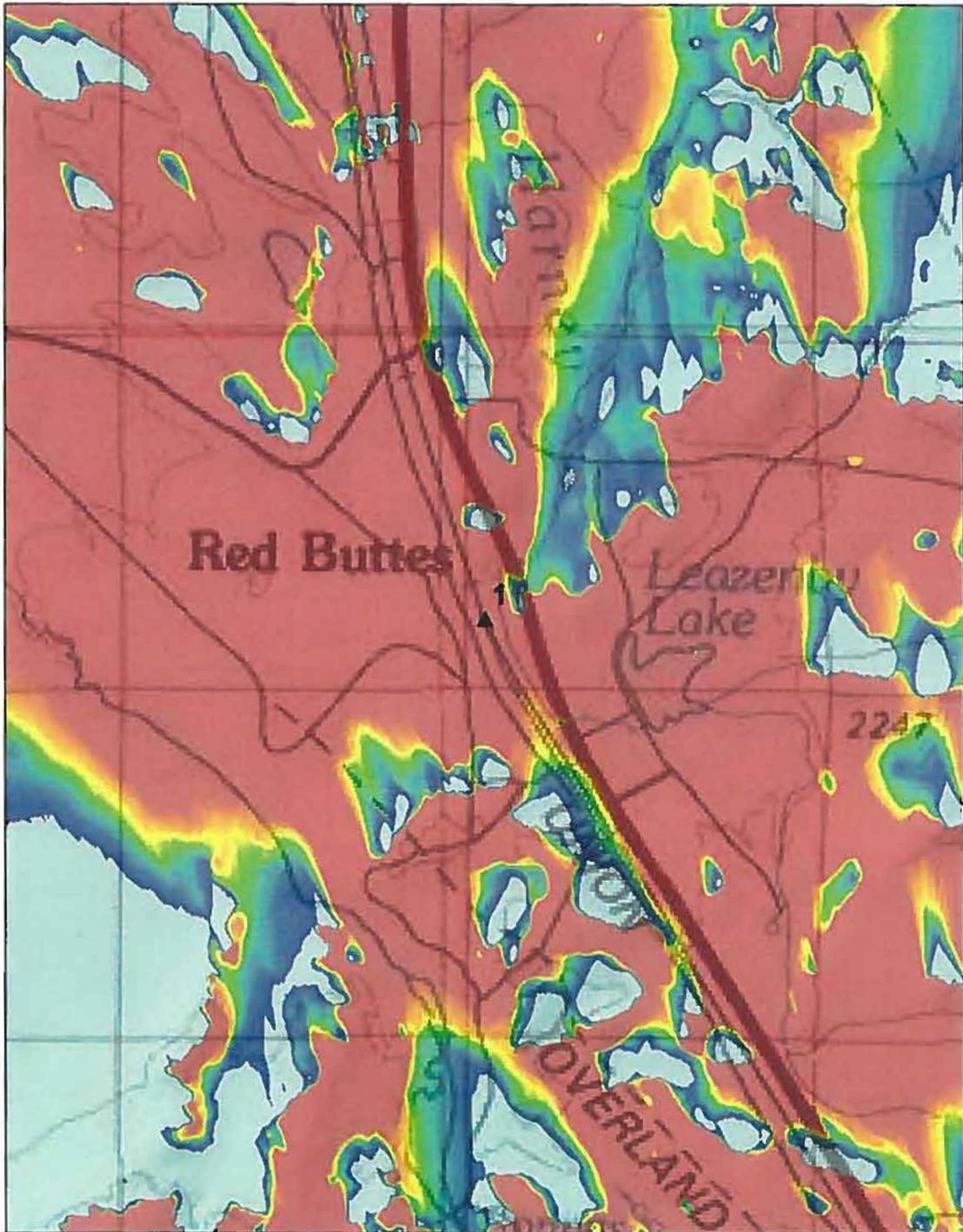


Figure 3. 20-Acre Ranchettes KOP

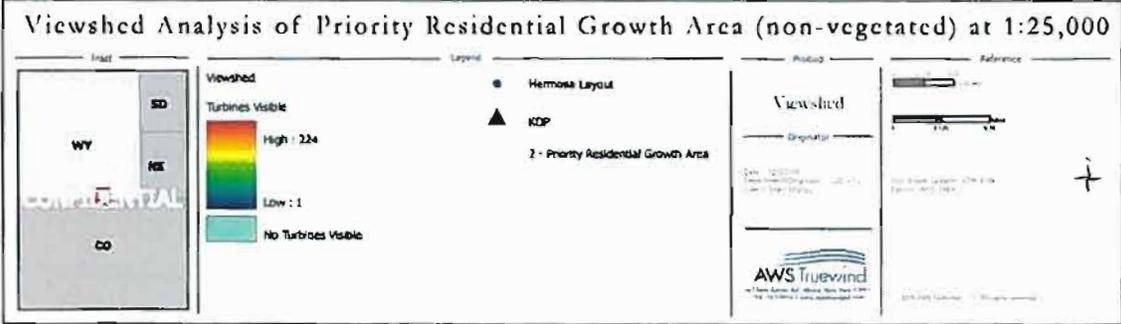
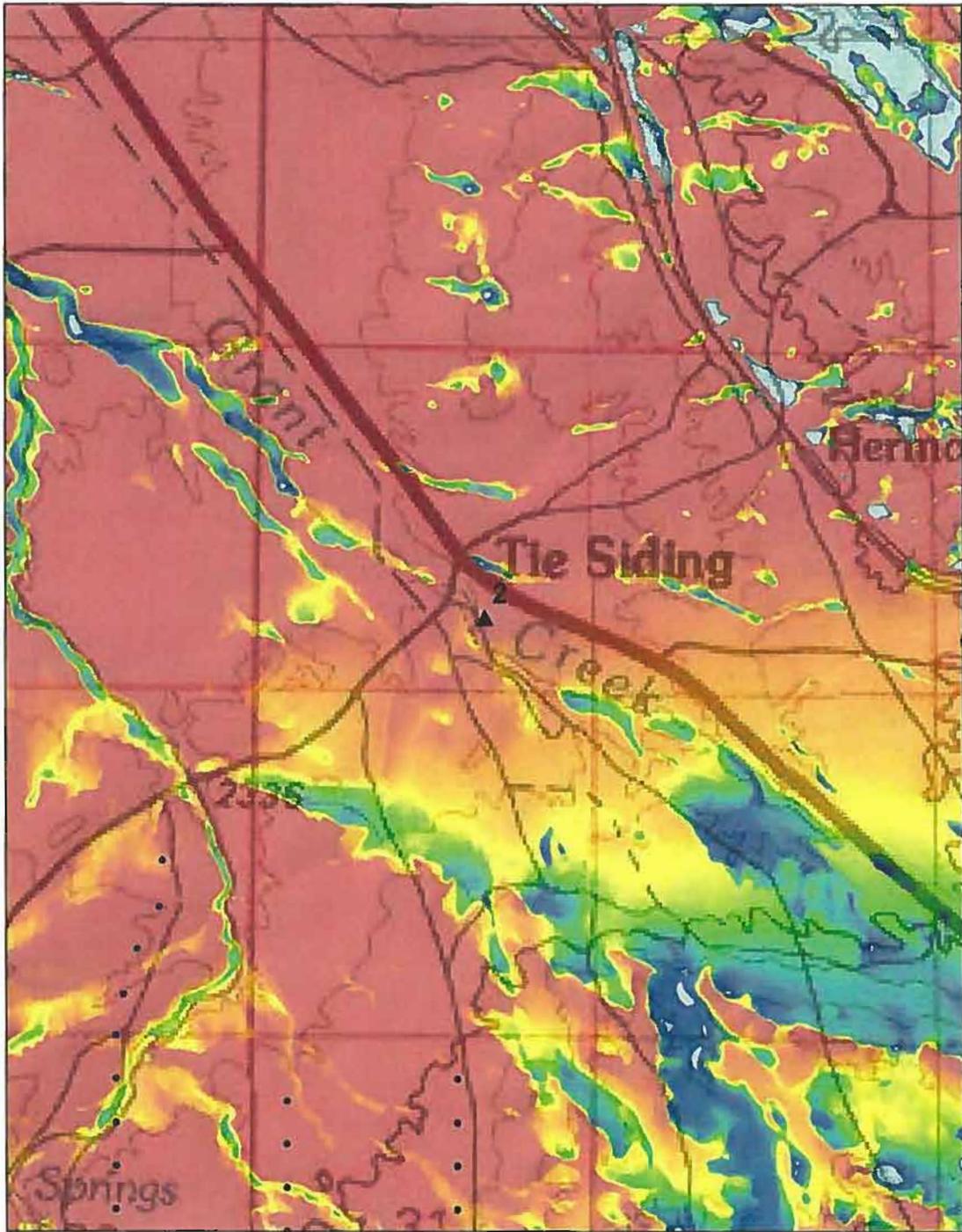


Figure 4. Priority Residential Growth Area KOP

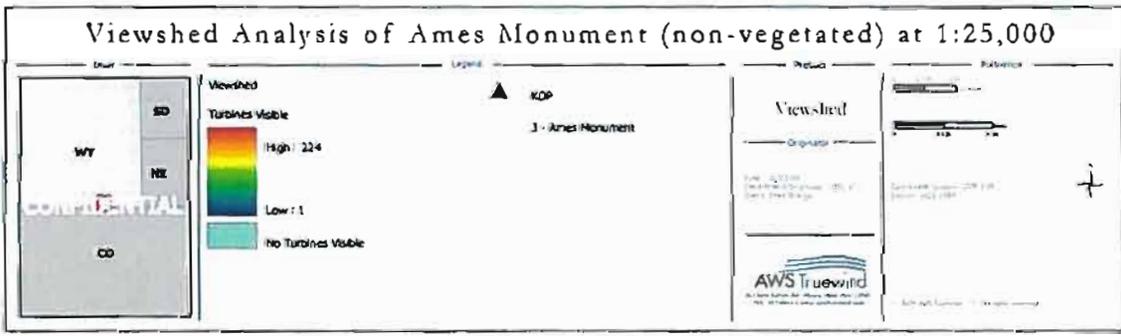
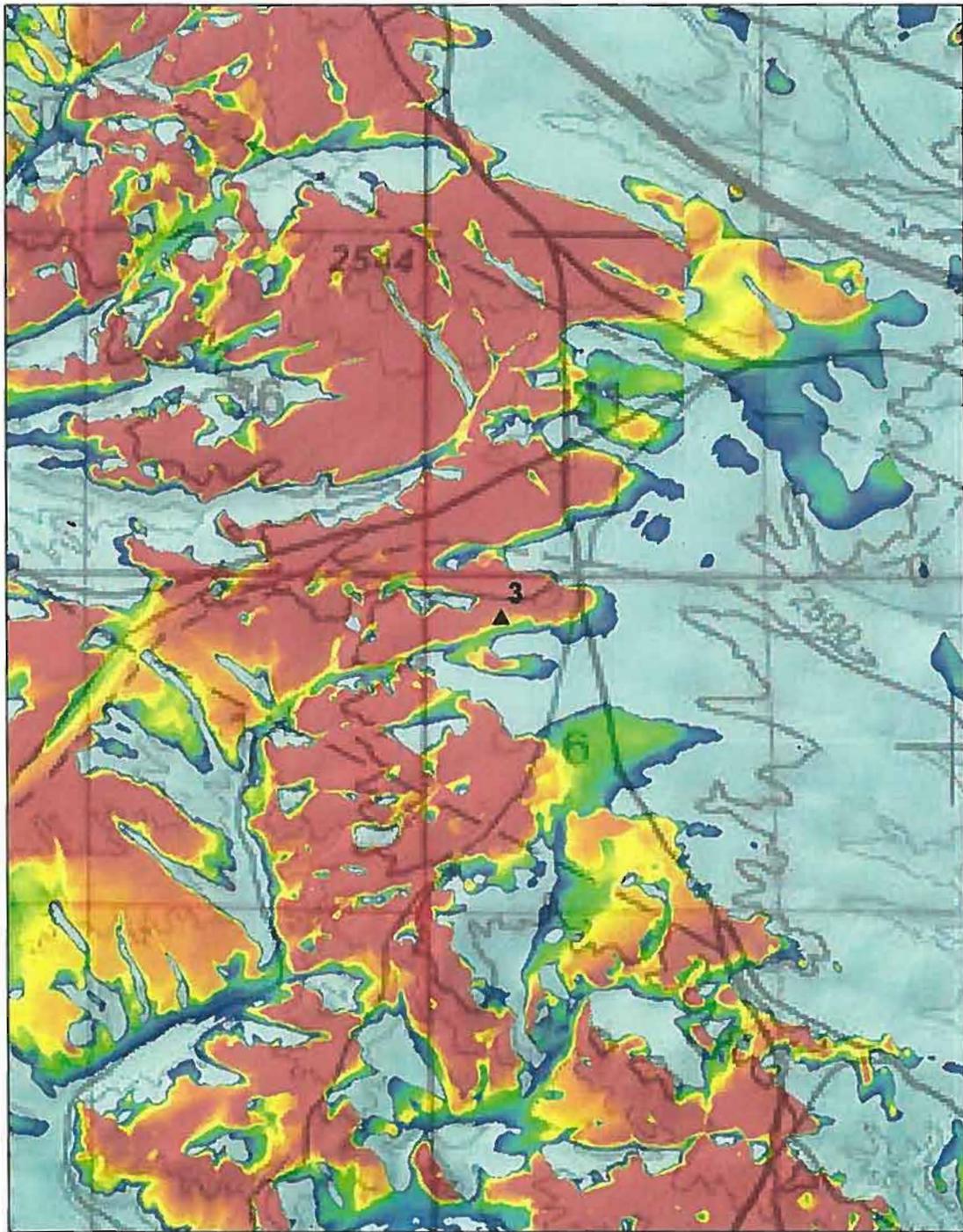


Figure 5. Ames Monument KOP

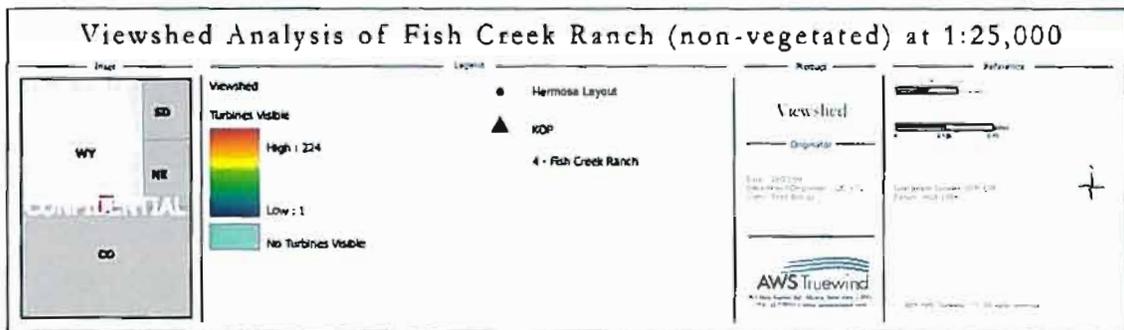
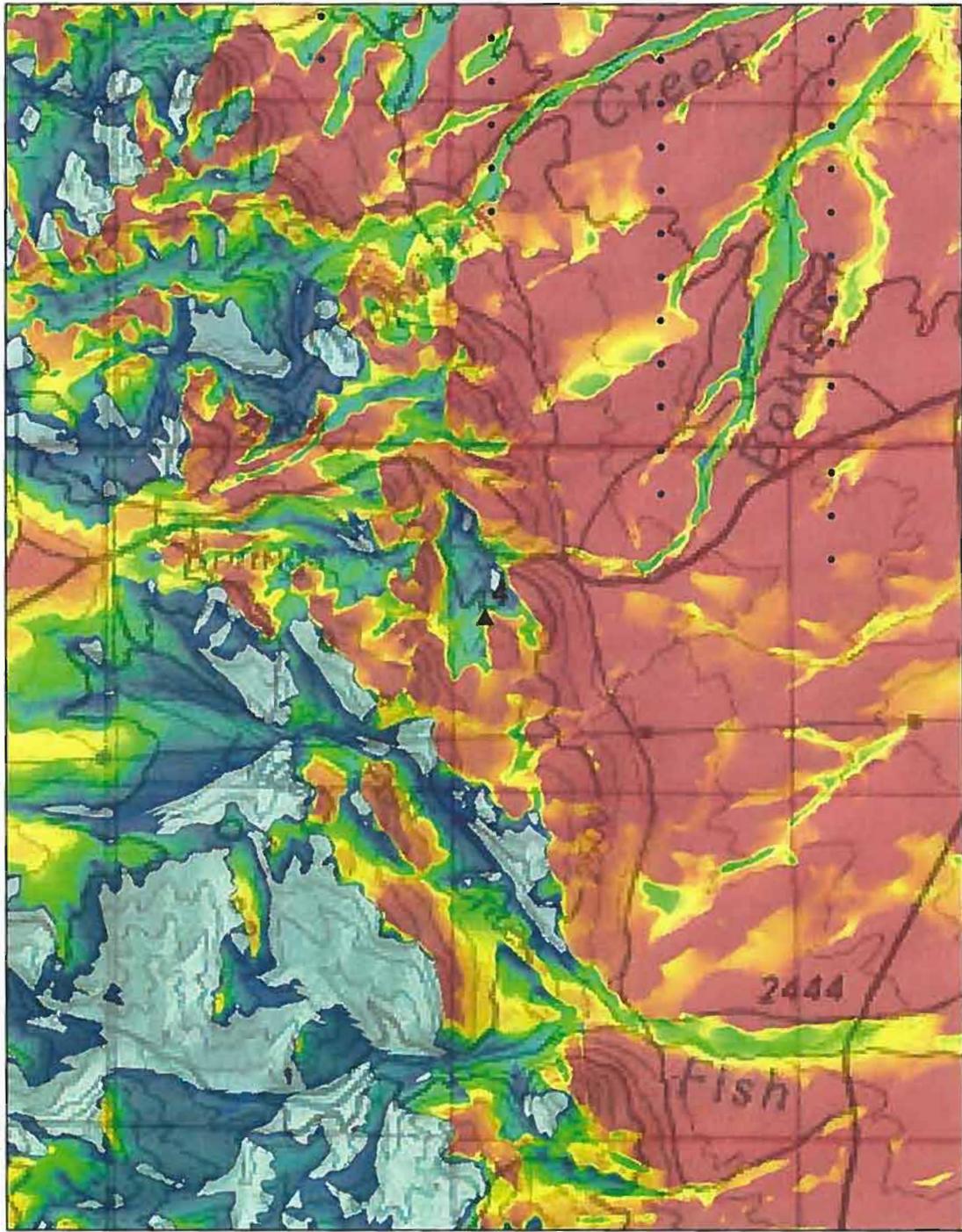


Figure 6. Fish Creek Ranch KOP

