FILE COPY M/047/022

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OF COUNSEL
ROBERT G. PRUITT, III
BRENT A. BOHMAN

October 4, 1996

Lynn Kunzler
Utah Division of Oil, Gas and Mining
P.O. Box 145801
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Re: *Uintah County Asphalt Mine/ M047/022*

Dear Mr. Kunzler:

Pursuant to our recent telephone conversations, please find enclosed a copy of the report, "Soil Analysis Information" prepared for the BuenaVentura Resources Corp. Asphalt Ridge project. This report indicates the soil types encountered correlates to the soil chemical analysis also attached, as follows.

Sample #	Soil Type
BV-1020-1	Honlu
BV-1020-3	Winona
BV-1020-4	waste rock/mine overburden
BV-1020-6	Milok
BV-1020-7	Clapper
BV-1020-8	Honlu
BV-1020-9	Henreieville
BV-1020-10	Mikim

If you have any further questions or require anything further, please let me know.

Very truly yours,

Robert G. Pruitt, III

RGP:sh
cc: Lonnie Hogan (w/encl)
0998.08

Soils Analysis Information

The plan shall include a Level Three Soil Survey and map. This information is needed to determine which soils are suitable for stockpiling for re-vegetation. Soils information on the study area was obtained from the local Natural Resources Conservation Service office. Information was also obtained during a site investigation conducted by JBR Environmental Consultants on October 19-20, 1994.[7] Information presented here consists of 1) general description of each soil type, 2) topsoil characteristics, and 3) estimates of topsoil availability. Soil descriptions are grouped according to the following areas within the project:

A. Main ridge
B. Cliffs
C. Rounded hills or eroded terraces
D. Lower alluvial slopes
E. Southeast area

A. Main Ridge

The main ridge terrain is a complex of ridges bisected by shallow drainage. The soils are gravelly loams.

Montwel-Honlu-Rock Outcrop Complex

The Montwel-Honlu-Rock outcrop complex occurs on low rolling hills on the west slope of Asphalt Ridge. This soil unit is 50% Montwel loam [50-90% slopes], 30% Honlu gravelly loam [25-40% slopes], 10% rock outcrop, and 10% other soils. In the project area the Honlu soil dominates.

The Honlu soil is very deep and is well drained. About 10-15% of the surface is covered with fragments. Soil depth may be 60 inches or more. A layer of lime is at a depth of 8-15 inches. Permeability of the soil is moderate.

Rock outcrop consists of exposures of bedrock occurring as escarpments, ledges, or ridges. It is mostly barren.

Winona Very Gravelly Loam, 8-25% Slopes, Eroded

This is a shallow well drained soil on dip slopes on the west slopes of Asphalt Ridge. There are small percentages of a variant of Winona [carbonated cemented hardpan], Honlu gravelly loam, Henrieville sandy loam, and rock outcrop. About 40% of the surface is covered with rock

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7 BuenaVentura Resources Corp. Asphalt Ridge Project; Biological Baseline Report; JBR Environmental Consultants, Inc.; The information on soils was taken from this report.

fragments. The surface layer is three inches of brown very gravelly loam. The subsoil layer is about six inches of brown gravelly loam on top of 10 inches of brown extremely gravelly loam. The substratum is conglomerate. The depth of the bedrock is 10-20 inches. Permeability of the soil is moderate.

B. Cliffs

The cliffs are basically a non-soil area.

Badland-Rock Outcrop Complex

The Badland-Rock outcrop complex occurs along the Asphalt ridge line in the western portion of the study area. It is about 50% badland, 35% rock outcrop, and 15% inclusion of shallow soil.

Badland consists of very steep barren nonstony areas that have been dissected by erosion. Potential runoff is very high.

Rock outcrop consists of mostly barren exposures of bedrock which occur mainly as steep or very steep escarpments, ledges, or ridges.

C. Rounded Hills or Eroded Terraces

In the central part of the study area, east of the rocky cliffs, the predominant soil is Clapper gravelly loam which is well drained.

Clapper Gravelly Loam, 2-25% Slopes

This very deep well drained soil is on fan terraces southwest of Asphalt Ridge. About 10-40% of the surface is covered with coarse fragments. The surface layer is three inches of brown gravelly loam. The subsoil is 10 inches of brown and pink gravelly loam above 36 inches of pink very cobbly loam. The substratum is pink very cobbly sandy clay loam to 60 inches.

Soil depth is 60 inches or more. There is a layer of lime at seven inches. Permeability is moderate.

D. Lower Alluvial Slopes

The deepest soils of the study area occur on these slopes. Mikim loam and Henrieville sandy loam occur on the lower slopes mainly in the eastern portion of the study area. Milok fine sandy loam and Abracon loam occur on the fan remnants and terraces just above the flats and low slopes.

Mikim Loam, 3-15% Slopes, Eroded

This very deep well drained soil is on stream terraces and foot slopes at lower elevations in the study area. The surface layer is six inches of light yellow brown and pale brown loam. The subsoil is up to 60 inches of light yellow brown clay loam. The substratum is clay loams and loams.

The soil depth is 60 inches or more. Permeability is moderate.

Henrieville Sandy Loam, 2-4% Slopes

This soil is very deep and well drained and occurs on fan remnants throughout the study area. The surface layer is four inches of yellow brown sandy loam. The subsoil is up to 60 inches of light yellow brown and brown sandy loam. The substartum is sandy loam.

The soil depth is 60 inches or more. Permeability is moderately rapid.

Milok Fine Sandy Loam, 3-8% Slopes

This soil is very deep and occurs on fan remnants on structural benches. There is a layer of lime at about 15 inches. The surface layer is four inches of light brown fine sandy loam. The subsoil is 11 inches of light brown fine sandy loam on top of 22 inches of pink fine sandy loam. The substratum is up to 60 inches of pink fine sandy loam and sandy loam. The permeability is moderately rapid.

Abracon Loam, 3-8% Slopes

This soil is very deep and well drained and occurs on fan remnants east of Asphalt Ridge. The surface layer is four inches of brown loam. The subsoil is six inches of reddish yellow loam on top of 41 inches of light brown or pinkish white loam. The substratum is up to 60 inches of reddish yellow loam. The permeability is moderate.

E. Southeast Area

The southeast portion of the study area consists of three different soils.

Clapper Gravelly Loam, 25-50% Slopes

This soil is very deep and well drained and occurs on hill slopes and typically has 10-40% of the surface covered with coarse fragments. A layer of lime is at 13 inches. The surface layer is seven inches of brown gravelly loam. The subsoil is six inches of yellow brown gravelly loam on top of 47 inches of very pale brown very gravelly loam. Permeability is moderate.

Denco Silty Clay Loam, 4-25% Slopes

This soil is moderately deep and well drained and occurs on eroding hill slopes. The surface layer is four inches of reddish brown silty clay loam. The subsoil is up to 37 inches of reddish brown silty clay.

The depth to shale ranges from 20-40 inches. Permeability is slow. Gypsum in the soil may be hazardous due to differential settlement and solution cavities.

Winona Very Gravelly Loam, 8-25% Slopes

This soil is shallow and well drained and occurs on dip slopes on the west slopes of Asphalt Ridge. About 40% of the surface is covered with rock fragments. The surface layer is three inches of brown very gravelly loam. The subsoil is six inches of brown gravelly loam on top of 10 inches of light brown extremely gravelly loam. The substratum is conglomerate. Depth to bedrock is 10-20 inches. Permeability is moderate.

Topsoil Availability

Generally the deeper soils on the lower slopes have the greatest potential for salvaging. Shallow gravelly soils on the hills and ridges provide less material and require more effort per unit of material salvaged. Salvage operations on steep slopes often fail to recover 30-50% of the available material due to inefficiency of machinery.

Native soils in the study area are mildly alkaline, low in organic matter, low in harmful salts, and have adequate fertility potential as measured in cation exchange capacity values of 20-40. All of the soils will require fertilization with nitrogen. Diammonium phosphate is also recommended.

Topsoil Characteristics and Ratings[8]								
Soil Type	Depth (inches)	Texture	% Coarse Fragments	pH	CEC	Limiting Factor	Suitability Rating	yd^3 per acre
Abracon	60	loam	n/a	n/a	n/a	none	good	8,150
Badland	0	rock	90	n/a	n/a	rock	unsuit-able	n/a
Clapper	13	gravelly loam	19-33	7.6	41.0-46.8	TKN[9]	fair	1,766
Denco	30	silty clay loam	n/a	n/a	n/a	n/a	fair	4,075
Henrieville	60	sandy loam	5	7.6	49.8	TKN	good	8,150
Honlu	33	loam	28-47	7.6	40.0-41.3	TKN	fair	4,482
Milkim	60	loam	8	7.8	54.3	TKN	good	8,150
Milok	60	sandy loam	4	7.6	38.9	TKN	good	8,150
Winona	9	gravelly loam	33	7.5	19.7	Rock/ TKN	poor	1,222
Mined	0	n/a	50	n/a	n/a	rock	unsuit-able	n/a

n/a = not applicable

[8] BuenaVentura Resources Corp. Asphalt Ridge Project; Biological Baseline Report; February 27, 1996; JBR Environmental Consultants, Inc.; The information on soils was taken from this report. See Table 2.6-1.

[9] TKN stands for Total Kjeldahl Nitrogen

CHEMTECH

ANALYTICAL LABORATORY

6160 S. STATE
MURRAY, UTAH 84107
PHONE: (801) 262-7378
FAX: (801) 262-7378

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017048

PROJECT: Asphalt Ridge Soil Samples: BV-1020-1

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.64	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	286	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	53.8	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	2.09	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	<10	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	542	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	222	10-26-94 SM4500
% Organic Matter	0.43	10-25-94 ASA
Calcium as Ca, mg/Kg	60,300	10-27-94 EPA 6010
Copper as Cu, mg/Kg	3.86	10-27-94 EPA 6010
Iron as Fe, mg/Kg	8,260	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	11,900	10-27-94 EPA 6010
Potassium as K, mg/Kg	2,260	10-27-94 EPA 6010
Sodium as Na, mg/Kg	77.7	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	24.6	10-27-94 EPA 6010
% Moisture	12.1	10-27-94 EPA 160.3
Saturation Capacity, %	28.5	ASA
CEC, meq/100gm	41.3	ASTM
Sieve: % Rock	47.3	USC
% Sand	41.5	USC
% Silt/Clay	11.2	USC

Approved By: [illegible] 11/17/94

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH
FAX: (801) 262-7592

DATE: 11-17-94

TO: JBR Consultants
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SAMPLE ID: Lab #U017049

PROJECT: Asphalt Ridge Soil Samples: BV-1020-3

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.52	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	340	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	57.0	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	2.55	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	<10	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	486	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	284	10-26-94 SM4500
% Organic Matter	1.1	10-25-94 ASA
Calcium as Ca, mg/Kg	111,000	10-27-94 EPA 6010
Copper as Cu, mg/Kg	5.05	10-27-94 EPA 6010
Iron as Fe, mg/Kg	6,830	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	5,820	10-27-94 EPA 6010
Potassium as K, mg/Kg	2,350	10-27-94 EPA 6010
Sodium as Na, mg/Kg	100	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	25.2	10-27-94 EPA 6010
% Moisture	13.0	10-27-94 EPA 160.3
Saturation Capacity, %	22.8	ASA
CEC, meq/100gm	19.7	ASTM
Sieve: % Rock	33.0	USC
% Sand	40.5	USC
% Silt/Clay	26.5	USC

Approved By: [signature]

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH 84107
PHONE: [illegible]
FAX: (801) 262-7378

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017050

PROJECT: Asphalt Ridge Soil Samples: BV-1020-4

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.52	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	319	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	60.4	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	1.25	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	15	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	641	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	222	10-26-94 SM4500
% Organic Matter	1.8	10-25-94 ASA
Calcium as Ca, mg/Kg	55,100	10-27-94 EPA 6010
Copper as Cu, mg/Kg	6.19	10-27-94 EPA 6010
Iron as Fe, mg/Kg	7,550	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	5,660	10-27-94 EPA 6010
Potassium as K, mg/Kg	2,420	10-27-94 EPA 6010
Sodium as Na, mg/Kg	76.3	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	29.7	10-27-94 EPA 6010
% Moisture	14.2	10-27-94 EPA 160.3
Saturation Capacity, %	34.1	ASA
CEC, meq/100gm	41.0	ASTM
Sieve: % Rock	19.1	USC
% Sand	61.5	USC
% Silt/Clay	19.4	USC

Approved By: Joe Wostkamm

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH
FAX: (801) 262-[illegible]

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017051

PROJECT: Asphalt Ridge Soil Samples: BV-1020-6

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.56	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	132	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	40.6	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	1.03	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	<10	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	598	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	<100	10-26-94 SM4500
% Organic Matter	1.0	10-25-94 ASA
Calcium as Ca, mg/Kg	24,200	10-27-94 EPA 6010
Copper as Cu, mg/Kg	4.32	10-27-94 EPA 6010
Iron as Fe, mg/Kg	6,760	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	4,110	10-27-94 EPA 6010
Potassium as K, mg/Kg	2,000	10-27-94 EPA 6010
Sodium as Na, mg/Kg	52.3	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	22.9	10-27-94 EPA 6010
% Moisture	9.0	10-27-94 EPA 160.3
Saturation Capacity, %	30.9	ASA
CEC, meq/100gm	38.9	ASTM
Sieve: % Rock	4.0	USC
% Sand	68.1	USC
% Silt/Clay	27.9	USC

Approved By: [signature]

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH 84107
PHONE
FAX: (801) 262-7375

DATE: 11-17-94

TO: JBR Consultants
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Cedar City, Utah 84720

SAMPLE ID: Lab #U017052

PROJECT: Asphalt Ridge Soil Samples: BV-1020-7

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.58	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	220	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	26.4	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	0.582	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	55	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	502	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	1,170	10-26-94 SM4500
% Organic Matter	0.55	10-25-94 ASA
Calcium as Ca, mg/Kg	27,900	10-27-94 EPA 6010
Copper as Cu, mg/Kg	3.71	10-27-94 EPA 6010
Iron as Fe, mg/Kg	12,200	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	6,670	10-27-94 EPA 6010
Potassium as K, mg/Kg	2,990	10-27-94 EPA 6010
Sodium as Na, mg/Kg	41.8	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	25.8	10-27-94 EPA 6010
% Moisture	13.2	10-27-94 EPA 160.3
Saturation Capacity, %	39.2	ASA
CEC, meq/100gm	46.8	ASTM
Sieve: % Rock	33.2	USC
% Sand	54.2	USC
% Silt/Clay	12.6	USC

Approved By: Joel N. Hoffman

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH
FAX: (801) 262-7374

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017053

PROJECT: Asphalt Ridge Soil Samples: BV-1020-8

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.64	10-25-94 EPA 9040
SAR	<.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	519	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	34.9	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	0.780	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	<10	10-26-94 SM4500
Water Soluble TKN, mg/Kg	21	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	486	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	132	10-26-94 SM4500
% Organic Matter	3.2	10-25-94 ASA
Calcium as Ca, mg/Kg	61,200	10-27-94 EPA 6010
Copper as Cu, mg/Kg	4.96	10-27-94 EPA 6010
Iron as Fe, mg/Kg	7,170	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	4,030	10-27-94 EPA 6010
Potassium as K, mg/Kg	1,210	10-27-94 EPA 6010
Sodium as Na, mg/Kg	52.5	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	19.9	10-27-94 EPA 6010
% Moisture	12.4	10-27-94 EPA 160.3
Saturation Capacity, %	36.6	ASA
CEC, meq/100gm	40.0	ASTM
Sieve: % Rock	28.1	USC
% Sand	57.4	USC
% Silt/Clay	14.5	USC

Approved By: _____

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH [illegible]
FAX: (801) 262-[illegible]

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017054

PROJECT: Asphalt Ridge Soil Samples: BV-1020-9

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.64	10-25-94 EPA 9040
SAR	0.07	Calculation
Water Soluble Calcium as Ca, mg/Kg	150	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	65.7	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	3.95	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	25	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	620	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	432	10-26-94 SM4500
% Organic Matter	0.9	10-25-94 ASA
Calcium as Ca, mg/Kg	40,500	10-27-94 EPA 6010
Copper as Cu, mg/Kg	6.03	10-27-94 EPA 6010
Iron as Fe, mg/Kg	8,750	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	7,270	10-27-94 EPA 6010
Potassium as K, mg/Kg	3,610	10-27-94 EPA 6010
Sodium as Na, mg/Kg	79.1	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	32.3	10-27-94 EPA 6010
% Moisture	11.9	10-27-94 EPA 160.3
Saturation Capacity, %	37.3	ASA
CEC, meq/100gm	49.8	ASTM
Sieve: % Rock	4.7	USC
% Sand	72.2	USC
% Silt/Clay	23.1	USC

Approved By: [illegible]

CHEMTECH

ANALYTICAL LABORATORY

MURRAY, UTAH
FAX (801) 262-7378

DATE: 11-17-94

TO: JBR Consultants
865 So. Cedar Knolls West
Cedar City, Utah 84720

SAMPLE ID: Lab #U017055

PROJECT: Asphalt Ridge Soil Samples: BV-1020-10

DATE OK'D: 10-25-94

CERTIFICATE OF ANALYSIS

PARAMETER	DETECTED	DATE ANALYZED/METHOD
pH Units	7.76	10-25-94 EPA 9040
SAR	0.05	Calculation
Water Soluble Calcium as Ca, mg/Kg	158	10-27-94 EPA 6010
Water Soluble Magnesium as Mg, mg/Kg	29.3	10-27-94 EPA 6010
Water Soluble Sodium as Na, mg/Kg	2.79	10-27-94 EPA 6010
Water Soluble Chloride as Cl, mg/Kg	<10	10-26-94 SM4500
Water Soluble TKN, mg/Kg	<20	11-11-94 EPA 351.4
Water Soluble Phosphorus, mg/Kg	273	10-27-94 EPA 6010
Water Soluble Sulfate as SO_4, mg/Kg	753	10-26-94 SM4500
% Organic Matter	0.84	10-25-94 ASA
Calcium as Ca, mg/Kg	7,810	10-27-94 EPA 6010
Copper as Cu, mg/Kg	3.60	10-27-94 EPA 6010
Iron as Fe, mg/Kg	5,910	10-27-94 EPA 6010
Magnesium as Mg, mg/Kg	1,870	10-27-94 EPA 6010
Potassium as K, mg/Kg	11,200	10-27-94 EPA 6010
Sodium as Na, mg/Kg	45.2	10-27-94 EPA 6010
Zinc as Zn, mg/Kg	28.8	10-27-94 EPA 6010
% Moisture	11.7	10-27-94 EPA 160.3
Saturation Capacity, %	28.5	ASA
CEC, meq/100gm	54.3	ASTM
Sieve: % Rock	7.5	USC
% Sand	62.8	USC
% Silt/Clay	29.7	USC

Approved By: [signature]