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PETER MAGGIORE
SECRETARY

FAX COVER SHEET

Date: September 13, 2001

To: Larry Coons

Subject: Triassic Park F.A. spreadsheet

Phone: _____

Fax: 505-852-2729

Comments: Larry:

Please find attached copies of my spreadsheets for calculating closure and post-closure care at Triassic Park. Steve Pullen, our Triassic Park project leader, was unavailable so I have not yet been able to check on the Gandy Marley submittal regarding their calculations. I'll get back to you on that. I thought that you could look this fax over and then get back to me for additional information so that I could send you some specifics instead of everything I have all at once. Unfortunately, you will not be able to see the colored edits that were inserted during my discussions with Montgomery Watson but generally, notes written outside the table borders were added after clarification or negotiation with them by phone. If you see two sets of numbers in a HWB unit cost column, the lower number was probably substituted after receiving clarification on where MW got their cost information. Please call with questions or requests for additional information.

From: Dave Cobrain
New Mexico Environment Department
Hazardous Waste Bureau
505-428-2541
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Pages (including cover sheet): 8

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Drum Handling Unit

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	0.5' thickness beneath bldg only NO cleanup of gravel apron	913 yd ³	8 ⁰⁰ /yd ³	7,307	increase yd ³ x 2	Limitations of removing only 0.5'. Fluff factor 100' x 418' gravel apron/bocks cleanup	1620 yd ³ nonhaz. 180 yd ³ haz	3.10 yd ³ nonhaz 14.30 yd ³ haz	5022 2574 7596
Disposal Of Contaminated Soil			includes disposal		increase disposal costs for 10% of material as hazardous	hazard materials may require PPE & special handling	1620 yd ³ nonhaz 180 yd ³ haz	6.50 yd ³ nonhaz 30 yd ³ haz	10530 5400 15930
Backfill		913 yd ³	2 ⁰⁰ /yd ³	1827	increase yd ³ x 2	Gravel Apron Removal	1000 yd ³	4.50 yd ³ 2 ⁰⁰ /yd ³	4,500
Reveg.	No estimate provided				220' x 418' area includes bldg. footprint and gravel apron		91,960 ft ²	1.00/ft ² 002	91,960
Soil Sampling	Beneath Bldg. 25 Sumps/Drains 35 Loading Dock 8	68 samples	80 ⁰⁰ /hr	138,720	Bldg. Footprint 25 Sumps/Drains 35 Gravel Apron/docks 8	None Gravel apron not accounted for	68 Samples	80/hr (2 samples/hr)	
Chem Analysis		68 samples	2040/sample				68 samples	2040 10% discount is OK	138,720
Bldg Demo	Bldg. Volume = 414 x 118 x 15	739,860	0.21/ft ³	155,371	Demo 120 hrs at trackhoe 1.75/hr = 15,000 Debris loading 600 yd ³ (500) 1.75/ton = 1575 Debris disposal in landfill 8.00/ton = 7200	See			23,775
Unit Demo	Concrete & base 1.5' thick x 418' x 118'	2740 yd ³	disposal cost 8.00/yd ³	21,922	500 hrs trackhoe w/ breaker 100 ft/hr (165/hr) = 82,500 Debris loading 2740 yd (4110 ton) 1.75/ton = 7,190 Debris transport/disposal in landfill (8.00/ton) 32,880				122,570
Reporting	Closure report → 1 → 5,000 Closure inspection → 1 → 3,000			8,000	Report will include all applicable data, figures & certifications/notifications	5,000 is not enough to cover a complete report, P.E. certification, deadweight etc.	1 → 20,000 1 → 3,000		23,000
Bldg. decon Wash water Fluid Sampling	5000 gal. (23 tons) + 213 tons reagent total = 235 tons	235 tons	Reagent 60/ton Disposal 8/ton	14,630	Same as TP	TE addition error.			14,660
Chem Analysis	No estimate provided				3 samples tested for full suite	fluids must be sampled prior to disposal to meet LDR etc	3	2040	6,120
Bldg. Decon Gover Maintenance	steam clean bldg & recover decon water for testing & disposal	120 hrs	60/hr	7,200	Steam clean bldg interior & recover decon water for disposal	None	120 hrs	60/hr	7,200
Waste Inventory disposal	Waste remaining 309 rows (1120 full 55 gal. drums @ 10 lbs/gallon)	Reagent 494 Waste 309 disposal 803	Reagent 60/ton Disposal 8/ton	36,071	Same as TP	TE addition discrepancy			36,064

23,526

1827, 1827

1840

Cost is added into the cost of Chem analysis

23,775

122,570

2040

Totals

391,048

492,095 399,302

-4080
395,222

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Evaporation Pond (Surface Impoundment)

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	Area = 92,232 ft ² Depth 0.5 ft	1708 yd ³	8 / yd ³	13,664	Area = 93620 No Δ in Restmat Depth = 1' + fluff increase x 2.5	Leaks from liquid storage are likely to be larger	3843 yd ³ non haz 427 yd ³ haz	3,10 / yd ³ Non haz. 11,30 / yd ³ haz	11,913 6,106 18,019
Disposal Of Contaminated Soil					Increase disposal cost for 10% as hazardous no stabilization required	haz. materials may require PPE & special handling	3843 yd ³ non haz 427 yd ³ haz	6,50 / yd ³ Non haz. 30 / yd ³ haz	24,980 12,810 37,790
Backfill		1708 yd ³	2 / yd ³	3,416	increase yd ³ x 2	1' thickness vs. 0.5' thickness	3416 yd ³	4.50 yd ³ 20 / yd ³	15,372
Reveg.	No estimate provided				310' x 302' total area		93620	1 / ft ²	93,620
Soil Sampling	Beneath Surface Impoundment & Truck Discharge Stations	63	2040 / Sample		Same includes cost of collection		80 / hr	2 sample / hr	
Chem Analysis	includes cost of sampling			128,520			63	2040 / Sample	128,520
Bldg Demo	Pump removal 8 Decan of Truck Station Pads?	1 Pump → Decan Water Stabilization	4 hrs → 60 / hr 2500 gal decan water	240 7,315 7,555	TP assumption ok but could save the cost of decan water disposal if the	Truck discharge pads were washed before liquid evap. is complete and the liquid was placed in the evap ponds	Same	Same	7,555
Unit Demo	92,232 ft ² x 3'	10,248 yd ³	8 / yd ³ excavating/disposal	81,984	Same for impoundment add truck disch. Pad demo 1' concrete + 2' liner (50x60) x 2	Pad demo 6000 ft ² @ 100 ft ² /hr (60 hrs x 165 / hr beaker = 9900 total debris = 6000 x 3" = 666 yd ³ exc. + disposal @ 2.25 / yd ³ = 1497	10,248 yd ³ impoundment + 6,50 yd ³ disposal	3,10 / yd ³ excavation 6,50 yd ³ disposal	98,381 1,499 99,880
Reporting	Closure Rpt → Closure inspection →	1 1	5,000 3,000	8,000	Rpt will include all applicable data/signatures/certifications/Notifications	5000 is not enough to cover a complete report P.E. cert / dead notification	1 1	20,000 3,000	23,000
Fluid Sampling									
Chem Analysis	No estimate provided				2 samples tested for full suite	Fluids must be sampled prior to disposal to meet LOR (may not be necessary see bldg Demo above)	2	2040	4,080
Cover Maintenance									
Waste Inventory Disposal	2936 tons Sludge 4698 reagent 7634 total disposed in LF	Reagent 4698 tons Waste 7634 tons disposed	60 / ton 8 / ton	342,954	2533 tons (2936 ok)	None (measurement difference)	Same	Same	342,952

55,809

6,832

18,73

2,040

Totals

586,093

770,788

670,501

- 2,040
668,461

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Liquid Waste Receiving & Storage

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	35' x 42' x 0.5' below concrete	27 yd ³	8/yd ³	218	35' x 42' x 1' x 2 units	TP only counted 1 unit limitations on removing only 0.5' Fluff factor, Access Rd.	98 yds non haz 11 yds haz 109	3.10/yd ³ Non haz 14.30/yd ³ haz	304 157 461
Disposal Of Contaminated Soil			includes disposal		increase disposal costs for 10% material as hazardous	haz materials may require PPE & Special handling	98 yds non haz 11 yds haz 109	6.50/yd ³ Non haz 30/yd ³ haz	637 330 967
Backfill		27 yd ³	2.0%/yd ³	54	2 units vs. 1 1' depth vs. 0.5	see above	109 yd ³	4.50/yd ³ 2.00	491
Reveg.	No estimate provided				155' x 240'	area = 1/3 of stabilization unit as shown in Fig. 4 and liq. Waste Rec. are.	37200 sq ft	1.00/sq ft	37200
Soil Sampling	Pad perimeter 7 2 sumps 2 2 tanks 2	11	2 samples/hr \$80/hr		beneath 2 sumps 2 tanks 2 incoming discharge 2 outgoing discharge 7 - 1 sump on 2 sides	Total 15 samples per unit x 2 units = 30 samples	30 89/hr x 2 samples/hr	add	
Chem Analysis		11	2040	22440			30	2040	61200
Tank Demo Bldg Demo	Tank Removal & piping Salvage Demo Volume 24yd	2 9000 gal 2 15900 gal Salvage 40hr	Tank debris 100/yd ³ x 24 2400	2400 + 362 2400 4800 (162)	4 9000 gal. Tanks + Inert/Recon 4 15900 gal. Tanks + Piping	Tank Demo 1000/tank 9 kgal Tank Demo 250/tank 15900 gal Salvage x 2 disposal x 2	4 Tanks 4 Tanks 80 hrs 48 yds ³	1000 → 4000 250 → 1000 60/hr → 4800 120/yd ³ → 4800	4000 1000 4800 4800
Unit Demo	Concrete Pad Removal 35 x 42 x 1'	54 yd ³ 1 unit	8/yd ³	436	30 hrs trackhoe w/breaker Debris loading 109 yd ³ /163 ton Debris transport disposal in LDR	@165/hr = 4950 @175/ton = 285 8/ton 1304 = 6539	109 yd ³ 2 units		6539
Reporting	Closure Rpt Closure Inspection	1 1	5000 3000	8000	Report will include all applicable data figures P.E. cert deed notification	5000 is not enough to cover a complete Rpt P.E. cert deed notification	1 1	15,000 3,000	18000
Fluid Sampling Decon Wash water Sampling Chem Analysis	No estimate provided				3 samples tested for full suite (stabilization)	fluids must be sampled prior to disposal to meet LDR	3	2040	6120
Cover Maintenance Waste Inventory disposal	18000 gal = 81 tons + 765 tons reagent to stab.	765 tons reagent 846 tons for disposal	60/ton reagent 8/ton for disposal	52,668	4 units 36000 gal. = 162 tons + 1530 tons to stabilize	4 units instead of 2 units	1530 tons reagent 1692 tons for disposal	60/ton reagent 8/ton disposal	105336
Pad Decon	1 unit 35 x 42 2500 gal decon water	71 tons water 106 tons reagent 118 total	60/ton reagent 8/ton	7315	x 2	2 units	Same	Same	14630

1/2 all
#s if only 1 unit

1428

218

744

Tanks will be 14600 crushed
Lined filled use GMI @ 4800

2040

May not be x 2

95957

265544 219015 / 2 =

If only 1 unit is built

109508

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Stabilization Unit

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	0.5 x 123 x 118	269 yd ³	8/yd ³	2150	1 x 123 x 118	Limitations on removing only 0.5' fluff factor, access Pds	484 haz → 3.10/yd ³ 54 haz. 14.30 yd ³ 538	1500 772	2272
Disposal Of Contaminated Soil			included disposal		increase disposal costs for 10% of material as hazardous	haz. materials may require PPE & special handling	484 haz → 6.50 yd ³ 54 haz → 30 yd ³ 538	3146 1620	4766
Backfill		269 yd ³	2/yd ³	538	1 x 123 x 118	See above	538 yd ³	4.50 yd ³ 200 yd	2421
Reveg.	No estimate provided				305 x 240 73,200 ft ²	area = 2/3 of stabilization and liquid waste receiving unit areas as shown in Fig 4	73200 ft ²	\$1/ft ²	73200
Soil Sampling	1 sample/2000 ft ²				1 sample/2000 ft ²	The vault is like a tank basin. Sample in places where spills are most likely	20	add	
Chem Analysis	14834 ft ²	8 samples	2040	16320	+ 8 sample at the ends of each bin plus 1 sample in each load out driveway (4)		20	2040	40800
Bldg Demo	Bldg. Volume = 123 x 118 x 20	290280	0.21	60959	Demo & Salvage 160 hrs @ trucked debris loading 357 yd ³ (535 tons) @ 1.75/ton = 625 debris disposal in LF '535 ton @ 8/ton = 4280	125/hr. = 20000 @ 1.75/ton = 625 @ 8/ton = 4280		24905	
Unit Demo	Concrete Floor 1" x 123' x 118' Equipment	1300 yd ³ 538 yd ³	8/yd ³	14700	Concrete Floor includes vault 1 x 118 x 123 + sides (8 x 10 x 12 + 8 x 30 x 12) = 18354 ft ² + 2340 = 20694	Floor includes vault, 1" thick Floor Sub base = Floor area x 2 Gravel upon removal, control Rm. + silo + tank + base pads	broiler exhaust @ 165/hr Debris 2.5 ton @ 1.75/ton Lime 1 ton Gravel 10 yd ³ @ 9.75/ton 779 ft ² x 0.6 143.5 yd ³ 1 inspection / Rpt	34155 4025 18400 1400	
Reporting	Closure Inspection Closure Rpt	1	3000 5000	8000	Report will include all applicable data, Figures, Certs & notifications	5000 is not enough to produce a complete Rpt w/ P.E. certs & deed notifications		3000 15000	18000
Bldg Decon	Steam clean? bldg. & remove decon. water for treatment & disposal	Bldg 60 hrs 5, loc 16 hrs 5000 gal.	x60/hr = 3600 x60/hr = 960 23 tons water = 1888 213 tons Reagent = 12780/1949	3600 960 1888 12780/1949	Same	Same		TRP addition ERROR	19228
Fluid Sampling	NO estimate provided				3 samples for full suite	Fluids must be sampled prior to disposal to meet LDR etc	3	2040	6120
Cover Maintenance						10x10x25'			
Waste Inventory (disposal)	162 tons (108 yd ³) (Reagent/waste ratio of 1.6 instead of 9.5)	259 tons reagent 421 tons disposal	60/ton 8/ton	15540 3368 18908	138 tons (92 yd ³) [bin hold 92 yd ³] ÷ 3 x 4 = 184 tons	bin hold 92 yd ³ (1/2 full + closing) = 31 yd ³ = 46 tons 46 tons x 4 bins = 184 tons	1748 tons reagent @ 60/ton → 104880 1932 tons disposal @ 8/ton → 15456	104880 15456	120336

7038

1076

1464

57980

2040

140765 Reagent to waste ratio of 1.6
 165.6 tons waste x 1.6 = 265 tons reagent @ 60/ton 15900
 + 166 tons waste + 3498
 431 tons disposal @ 8/ton = 3448
 370028 296947
 Δ total cost 70 → 195959
 - 4080
 191879

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Roll off Storage Unit

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	0.5 thickness x 414 x 330	2530 yd ³	8/yd ³	20240	1' thickness x 414 x 330	Limitations of removing only 0.5' Fluff factor	4554 haz → 310/yd ³ 506 haz 14,30/yd ³ 5060 yd ³		14117 2236 21353
Disposal Of Contaminated Soil						haz materials may require PPE & special handling	4554 haz → 6,50/yd ³ 506 haz 30%/yd ³ 5060 yd ³		29601 15180 44781
Backfill		2530 yd ³	2/yd ³	5060	1 x 414 x 330	See above	5060 yd ³	4,50/yd ³ 2.00/yd ³	22770
Reveg.	No estimate provided				414 x 330 roll off area footprint =	136620 ft ²	136620 ft ²	100/ft ²	136620
Soil Sampling	beneath area Footprint 69 beneath Sumps 2	71 Samples	8/hr + ↓		Same	Same	71	80/hr + analytical cost	
Chem Analysis			analytical cost	144840			71	2040	144840
Bldg Demo	None				None				
Unit Demo	Linear system 2' x 414' x 330'	10120 yd ³	8/yd	80960	Linear System 3' x 414' x 330' excavation load disposal	drawings indicate thicker liner in some areas + berms & sumps & ramps	10120 15180 19734 tons	Excavate & Load 17.5/ton dispose 8/ton	13156 34535 151872 192407
Reporting	Closure Inspection Closure Report	1 1	3000 5000	8000	Report will include all applicable data figures certifications notifications	5000 is not enough for a complete report R.R. cert dead notifications RM, etc.	1 1	3000 7500 report	18000
Unit Decon	40 hours labor	40 hrs labor	60/hr	2400	None	No concrete surfaces and No equipment to decon.	NA	NA	0
Fluid Sampling	5000 gal decon water generated	23 tons liquid 235 tons disposal	60/ton	12780 1880 17060					
Chem Analysis	No estimate provided				NA				
Cover Maintenance							7135 11416 18551		
Waste Inventory disposal	132 x 40 yd ³ containers density 90 lbs/ft ³ 1.2 tons/yd ³ 6415 tons waste 10264 tons reagent	Reagent 10264 waste 6415 disposal 16679	Reagent 60/ton disposal 3/ton	615840 133432 749295	132 x 40 yd ³ containers density 111 lbs/ft ³ 1.5 tons/yd ³ → 60216/ft ³ (recalculate at	7920 tons waste - waste reagent ratio 1.6/1 12672 reagent 11416 →	Reagent 12672 waste 7920 disposal 20592	Reagent 60/ton disposal 3/ton	760320 164736 925056

66134

10120

2733

105248

will change estimate done in Berne & accept excavate & load 8/ton

684960
148408
833368

1025455

1505827 1180443

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Truck Wash Unit

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil	No				0.5 x 103 x 33 + 0.5 x 57 x 27		63 29 92 yd ³	3.10/yd ³	285
Disposal Of Contaminated Soil	Estimate				↓		92 yd ³	6.50/yd ³	598
Backfill	Provided				↓	see above	92 yd ³	4.50 yd ³ 2.00/yd ³	414
Reveg.					103 x 33 x 57 x 27		4938 ft ²	100/ft ²	4938
Soil Sampling					Sample beneath likely release locations	Samples beneath bays Sumps, sump drains, tank, Concrete Ped load racks etc	10	80/hr sample collection	↓
Chem Analysis							10	↓ 2040	20400
Bldg Demo					92 x 20 x 2 2 sided bldg	Track hoe 20 hrs 136 yd ³ debris (177 tons) Load dispose	20 hrs 177 tons 177 tons	125/hr 175 8/ton	2500 310 1416 4226
Unit Demo					92 x 33 + 27 x 57 reinforced 12" concrete 4575 ft ² x 2	track hoe w/breaker 165/hr 508 tons 1.75/ton Load 510 tons dispose	46 hrs 508 tons 508 tons	165/hr 1.75/ton 8/ton	7590 889 4064 12343
Reporting					Inspection closure Reporting	Includes data, figures QA/QC certificates	1 1	3000 5000	8000
Fluid Sampling					2 samples from	Tank and decan water	2	2040	4080
Tilting Wash & Decan Fluid Chem Analysis					9000 gallons (tank full) off site disposal of contaminated water (non haz)		9000 gal.	0.25/gal.	2250
Cover Maintenance									
Unit Decon					20 hrs to steam clean the bldg and bays		20 hrs	60/hr	1200
Tank Removal & Piping Salvage					2 9000 gal tanks Salvage	\$1000/tank Salvage 40 hrs	2 tanks 40 hrs disposal 15 ton	1000/tank 60/hr 8/ton	2000 2400 120 4520

184
99

4226
12543

2040

No estimate

63454 58385
→ -2040
56345

FINANCIAL ASSURANCE WORKSHEET

UNIT NAME Land fill

Activity	TP Assumptions	TP Volume	TP Unit Cost	TP total cost	HWB assumptions	Reasons for changing assumptions	HWB Volume	HWB Unit Cost	HWB total Cost
Excav. Of Contaminated Soil									
Disposal Of Contaminated Soil									
Backfill	fill to gnd surface includes phone 1B area	2,060,000 yd ³	2 ⁰⁰ /yd ³	4,120,000	same except some compaction is necessary to prevent cap damage thru settling	NMED price is 2⁰⁰ less than survey price of 55 ⁰⁰ yd ³	2,060,000 yd ³	3,50 yd ³ 200/yd	7,210,000
Reveg.									
Soil Sampling	1 sample/1000 ft ² of land Rd and stormwater retention basin 1 per 40000 ft ²	↓	↓		1 sample/1000 ft ² of land Rd plus the stormwater retention basin 1/40000 ft ² provided	↓	↓	↓	
Chem Analysis	↓	51	2040	104040	that the stormwater retention basin is lined per phone call with S&P on Aug - 2000	same	51	2040	104040
Bldg Demo									
Unit Demo									
Reporting	Closure of site. Impact on closure of site. Report	2 → 2 →	3000 5000	6000 10000	Report will include all applicable data, figures, certifications, notifications	5000 is not enough to produce a complete Rpt w/ PE. Certs need notifications etc. PE Rpts are annual	Inspect 2 Apts 31 annual for 30 yrs.	3000 15,000 (\$12) 5000 (29)	6000 30000 145000 181,000
Fluid Sampling									
Chem Analysis									
Cover Maintenance								2.27/ft ²	
Cap Construction (Land fill cover)	Veg. cover 2.5' Geocomposite 2.0 mil HDPE Geomembrane GCL / Subgrade 0.5' Protective Soil, 5'	1,486,534 ft ²	1.52 /ft ²	2259532 + contingency 2372508	3' Cap including Geocomposite, Geomembrane 8 GCL 5' grade (0.5') 3' veg.		1,486,534 ft ²	3.25 /ft ²	4,831,235
Plot Survey		30 hrs	80/hr	2400			45 hrs	80 hr	3,600

4120000

GMI = 2,246
No explanation of units provided

3,374,432